

Running head: Health Promotion Staffing Methods

Graduate Management Project:

Health Promotion and Wellness Staffing Methods

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### Abstract

This study describes the current methods and procedures used to determine both military and civilian health promotion staffing levels. Health promotion and wellness programs positively influence the military mission readiness and force protection, increase productivity, reduce health care costs, minimize illness and non-battle injuries, and decrease the number of hospital visits. The Army does not have standardized staffing guidelines or models while the mechanisms to determine requirements are fragmented and inconsistent. Core staffing establishes a planning baseline, allows flexibility for the unique demographics of region, provides cost control, and increases clinical availability. Directors must remain actively involved in the decision-making process and accurately track workload data. Successful programs target high-cost and high-risk populations with documented outcome measures to substantiate cost-effectiveness and enhance financial support. The Automated Staffing Assessment Model (ASAM) is a new method of tracking manpower requirements that applies to Medical Treatment Facilities but not field units. The MEDCOM Manpower Division is developing a multivariate model to determine the relationship between workload, money, and the population served for health promotion. The recommendation to meet core health promotion activities includes a *minimum* of five positions: a director, dietitian, physical therapist or exercise physiologist, an occupational health nurse/health educator, and administrative/clerical support. A licensed practical nurse, pharmacist and marketing staff augments the core staff for a full range of activities. Recommended areas for further health promotion study include: objective data for staffing, the impact on productivity and health-related behavior, cost savings and cost avoidance, and establishing best practices for health promotion initiatives.

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### Health Promotion and Wellness Staffing Methods

In 1990, the United States spent approximately \$675 billion on health care, which was 12.4% of the gross national product. In 1995, the total cost exceeded one trillion dollars. In fact, the United States spent more money per person on medical care than any other country in the world. In spite of this, more than 35 million Americans do not have health insurance. Every year, millions of health care dollars spent on medical treatment are due to drugs, crime, and poor literacy rates. Americans consume huge amounts of health care although many physician visits are simply medically unnecessary. Inefficiencies stem from defensive medical practices and the lack of patient responsibility to pay for services. Poor lifestyle habits lead to a myriad of serious chronic diseases. Specialized technology increases the demand for diagnostic tests and procedures. The problem of rising health care costs requires a basic reform of the finance, delivery, and structure of medical care. Additionally, the entire health care system must undergo a substantial attitude change towards the benefits and cost savings of health promotion. The health care system tends to focus on the diagnosis and treatment of disease but not the prevention of health problems or protecting and promoting healthy practices (Kovner, 1995; Chapman, 1994; Feldstein, 1994).

Health care organizations must constantly respond to a changing environment. For example, hospital admissions are declining and the length of stay is decreasing. Patients receive treatment in outpatient settings more than ever before. Managed care replaces indemnity insurance plans although many hospitals have lost money trying to start Health Maintenance Organizations (HMO). Leaders must now focus on effective ways to reduce costs to remain viable. In this way, hospital administrators must focus on

the bottom-line dollars to determine success for the organization (Kovner, 1995). Most companies are not willing to provide funding for health promotion simply because it is the right thing to do. Executives are demanding financial justification before they continue to provide resource support. Successful programs tend to be proactive by targeting high-cost and high-risk populations. Educational programs focus on encouraging individuals to take responsibility for their own health (Chapman, 1997). To do this, data are collected to document the benefits and cost savings to continue the programs and funding. In contrast, programs with poor attendance or lack of data tend to decrease the credibility of the programs and will suffer a short-term existence and insufficient resource support. According to Michael P. O'Donnell, President of the American Journal of Health Promotion, health promotion programs must either reduce operating costs or increase the market share with new customers to survive in managed care (1998).

Prior to managed care, patients did not have an incentive to care for themselves. Physicians did not have an incentive to supply care efficiently. In fact, a larger number of hospitalizations and treatments for a patient would result in higher reimbursement and payments for the medical organizations and practitioners. Managed care plans attempt to control costs through measures such as utilization review, capitation payment methods, and patient cost sharing. Many empirical studies show that increased spending on medical services is not the most cost-effective way to improve health levels. In fact, medical programs tend to have a much higher cost than non-medical programs for health care. Time after time, researchers indicate that changing lifestyle behaviors diminishes mortality rates with a lower cost per life saved than other types of medical treatments

(Feldstein, 1994). Cost containment by large employers with worksite wellness programs can reduce health care costs by approximately 30 percent (Chapman, 1994). Health risks are directly associated with higher medical costs such as worker compensation, sick leave, disability costs, and more medical claims (Chapman, 1997).

According to Dr. Louis W. Sullivan (1999), former U.S. Secretary of Health and Human Services, the number one cause of preventable death is from tobacco use. In 1964, approximately 50% of Americans smoked. Today, only about 25% of the population smokes. This decrease has resulted in fewer deaths and better health although there is a long way to go. Many studies have documented the impact of lifestyle behaviors on the prevalence of chronic disease. In fact, the Surgeon General has noted that eight of the ten leading causes of death relate to diet and alcohol. Approximately one-fourth of all the total health care expenditures are spent on diet-related diseases. In particular, one of the primary reasons patients visit their health care provider is for hypertension. Medications for hypertension alone account for 70-80% of the treatment costs. Health promotion interventions such as diet and exercise programs could significantly reduce these costs. Weight loss and changes in dietary practices are effective in reducing or eliminating the need for medications and more invasive procedures. The American Dietetic Association reviewed over 2400 cases submitted by dietitians. For hypertension alone, nutrition intervention revealed an average saving of \$4,075 per case annually (ADA, 1995; 1993).

A summary of 32 literature reviews of wellness programs showed conclusive evidence that health promotion intervention for hypertension had positive effects on the participants' health. Of 32 studies, 44% were classified as 'rigorous research designs'.

The designs are based on: a publication in peer reviewed journals, inclusion of a control or comparison group, detailed explanation of the intervention, the use of statistically significant tests, and included at least 300 or more subjects. Sixty-four stress management programs (76% rigorous designs) rated second after the hypertension programs and classified as 'acceptable' for producing positive health outcomes. The economic findings of all the studies indicated notable cost savings in decreased health care utilization, reduced health care costs, fewer sick days, and lower injury and disability costs. Overall, the cost-benefit ratio was 1 to 5.94 (Chapman, 1997).

The focus on health behavior of the top ten causes of death is critical to understand the health needs of the population. The *Healthy People 2000* report is a blueprint to meet the national goals. To improve well-being, citizens must be educated on health status, promotion of healthy behaviors, and injury reduction. Consequently, the barrier to meeting these goals is the lack of funding. Last year, the five million dollars spent on Public Health and Prevention programs totaled less than one percent of the government's total health budget. Dr. Sullivan (1999) recommends the budget be increased tenfold to at least \$50 million dollars for prevention programs. This increase can result in a cost avoidance, thus, lead to greater savings in the future with a healthier population. Consequently, the health benefits of prevention programs and long-term cost savings are often not evident immediately in the current budget projections. Cost justifiability is an issue that may determine the continuing support for health programs and services. If positive outcomes are documented, the program is more likely to be cost-effective (Chapman, 1997).

Individual lifestyle modifications, seeking preventive services, and health promotion behaviors prevent and reduce the need for medical care. Medical personnel must promote individual health care responsibility through self-care skills for illness to reduce to demand on the medical system. Patient education and preventive practices can help individuals make better choices and understand the need for medical care (Wennberg, 1990). Health promotion programs and preventive services must sustain the financial aspect of top management support to be successful. Resources for materials, space, and personnel are critical to achieve the cost-savings potential of this investment.

#### Problem Question

According to Brigadier General Patrick D. Sculley, the former commander of the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM, 1997), the Army Medical Department health promotion “programs lack overall consistency, adequate resourcing, leadership emphasis, and outcome evaluation metrics” (pg. 1). Health promotion and wellness programs significantly impact military readiness, force protection, reducing health care costs, and keeping soldiers healthy by minimizing illness and non-battle injuries. In fact, some health promotion centers may not be meeting the wellness mission for the community due to insufficient personnel. Lack of adequate health care providers and administrative folks may be due to inconsistent standards for determining staff requirements.

The continuous investment in quality, trained health care personnel is vital to meet the wellness objectives of the military. The *U.S. Army Top Five Health Promotion Goals* are: reduce the prevalence of overweight people, increase the number who exercise, decrease cigarette smoking, reduce work-related injuries, and increase the

number of people who received appropriate screening and immunizations (Krueter, 1998). The type, number, and mission of the personnel who support these goals are critical for the success of a healthy, fighting force. Therefore, what methods determine staffing levels in Army health promotion centers?

#### Conditions which prompted the study

Army health promotion and wellness centers use a variety of mechanisms to determine appropriate staffing levels. The initial literature search revealed little documentation on Army health promotion staffing guidelines or models. In e-mail correspondence and oral communications, several health promotion directors noted staffing decisions usually do not have written guidelines. Subjective or incomplete information often determines personnel requirements. This may or may not meet the actual needs of the health care organization or patients. For some wellness centers, hospital administrators must try to determine the appropriate level of staffing but are not certain how to accomplish the task or what factors should be included in the estimation.

Currently, the Army does not have standardized staffing guidelines or models for health promotion and wellness clinics. Many different data sources collect workload information and personnel are often determined in a random and inconsistent manner due to the various health promotion approaches. For example, a commander's support and personal belief in the benefits of health promotion can make or break a wellness center through funding and personnel resources. Health promotion directors strive to maximize cost-effectiveness and market health benefits to military commanders for financial support. Objective measures provide a way to determine staffing which may reduce inconsistencies in personnel, workload, and funding. Overall, each health promotion

director initiates a different process to plan staffing, determine financial constraints, and invest time for each new Army wellness center. With personnel reductions and cost cutting threats, health promotion directors are concerned about obtaining and maintaining the appropriate staffing level to support the military wellness mission and initiatives. The Office of the Surgeon General (OTSG) has established its *Top 20* to focus on important issues. Health Promotion and Manpower are two of the *Top 20* priority issues for military medicine related to staffing.

My background as a dietitian provides experience and knowledge in health promotion and wellness issues. In fact, the Chief, Dietitian Branch of the Army, is intensely interested in keeping dietitians active in military health promotion centers. Appropriate staffing guidelines may better support the requirement for dietitian services. For example, considerable evidence supports poor dietary intake as a significant contributor to chronic diseases. In fact, five of the ten leading causes of death of American adults are associated with nutritional habits: heart disease, cancer, stroke, diabetes, and atherosclerosis. A lack of physical activity is another major risk factor for several chronic diseases, including cardiovascular disease. A large percentage of Americans do not exercise sufficiently to improve their health, despite the well-established health benefits of exercise in a variety of credible sources (Gochman, 1997; U.S. Department of Health and Human Services, 1988).

Breast cancer is the number one cause of cancer death for women. Early detection and treatment significantly improve survival rates. Health promotion programs provide an excellent opportunity to encourage individuals to exercise, attend educational sessions, receive screening tests, and improve overall health and well-being (Glanz and Oldenburg,

1997). This information can help hospital executives make better decisions about the type and number of professionals required for a health promotion and wellness center to meet the wellness mission.

Historical and Environmental Factors. Staffing guidelines provide a systematic approach, a starting point, an equitable evaluation of needs, and establishes a common theme for determining how many and the type of professionals needed. A staff member of the North Atlantic Regional Command (NARMC), Lieutenant Colonel Kim Marley, General Surgery Ambulatory Clinical Services Director, Walter Reed Army Medical Center, along with a contractor have developed the Regional Uniform Benefit Model (RUBM) (personal correspondence and RUBM briefing, 6 October, 1998). The goals of the model are to provide realistic and consistent staffing for the region based on the population served, while allowing flexibility for each MTF. Data collection and on-site evaluations analyze current and projected workload for each MTF. Comparisons against each MTF reflect an unbalanced workload and staffing levels in similar departments. Adjustments to the model reflect the numbers of Medicare, Primary Care, and Specialty Care patients. After clinical availability is determined, specific calculations provide a ratio of primary care providers and the support staff to meet the demographics of the area. Overall, the model matches the correct number of people with the appropriate workload. If workload is light in a specific area, the analysis may recommend a discontinuation of that service, refer patients out of the department, or consolidate the workload with another facility (Marley, personal communication, 6 October 1998). As with any major changes in resources, especially personnel, funding and political issues often play a role in the decision-making process and its outcome.

As shown with the RUBM model, staffing requirements should be objective and reflect the needs of the clinic and the community. Guidelines must meet the Joint Commission for the Accreditation of Health Care Organizations (JCAHO) standards, follow health promotion policies, and should provide comprehensive health promotion programs as described in Army Regulation 600-63, Army Health Promotion (1987). The necessity to be proactive, not reactive to staffing requirements can have a tremendous impact on the number of assigned personnel. For example, military health facilities should address the imbalance in resource allocations such as the personnel distribution and budget. Objective criteria can provide a standard and uniform level of staffing, provide cost control, and increase clinical availability through appropriate planning.

In general, as the population and potential enrollees increase in a geographic area, the demand for resources and services also increase. For example, a small clinic tends to have fewer patients, and thus, less funding. In contrast, a military medical center (MEDCEN) has a large number of patients supported by more funding and resources. With this phenomenon, the need for cash, personnel, and equipment resources may outgrow the available assets. Objective criteria can help determine and plan current resource needs. Therefore, an effective forecast of those requirements will meet future increases in demand.

In the past, the Health Services Command (HSC) determined personnel requirements with Staffing Guides. The combination of manpower survey reports, organizational manuals, the Table of Distribution and Allowances (TDA) and local appraisal provided data for the Staffing Guides. In this document, the term manpower describes the number of men and women required or authorized by the Army (U.S. Army

Medical Command [MEDCOM], 1997). The use of local appraisal is often extremely subjective and contains unreliable information due to lack of workload and manpower utilization data. This method did not provide useful information to the Department of the Army (DA), Department of Defense (DoD), and Congress. To improve this system and its credibility, Congress directed the Government Accounting Office (GAO) to develop a better way to determine manpower requirements (MEDCOM, 1997).

The Health Services Command began using the Manpower Staffing Standards System (MS3) in 1983. This method became the foundation for a more credible and effective approach of distributing and using personnel resources. Then, in 1986, the DoD decided to develop common standards for all three services. Although the DoD used these new standards, all three of the individual services continued using their own measures to distribute DoD authorized manpower allocations. The Health Services Command continued to use the MS3 method although the MTF commanders complained that the process did a poor job of representing actual requirements. Finally, in 1992, the Army Medical Department (AMEDD) manpower department developed the Benchmarking System. This method used the available man-hour and workload data from the Medical Expense and Performance Reporting System (MEPRS) through correlation and regression analysis of benchmark times. Consequently, the Benchmarking System only determined medical manpower requirements for the traditional health care business at the MTFs. A review of this system revealed many flaws and the need for much improvement (MEDCOM, 1997).

Capitation adds another dimension to determining manpower requirements. A capitated budget means the MTF receives a lump sum of money for all requirements,

including personnel (which previously came from a separate source). A correct estimation for the right amount of personnel is absolutely essential. In response to these new variables and previous problems, the Automated Staffing Assessment Model (ASAM) was developed. Presumably, this new system removed the problems of the Benchmarking System. The ASAM identifies the resources for the required work and provides accurate records of the Table of Distribution and Allowances (TDA). Furthermore, the ASAM guides the local commander where the dollars are most essential and where to make adjustments. For example, staffing shortages could adversely impact high volume services serving a large numbers of patients. The commander can use this information to determine the best use of the capitated budget towards personnel resources (MEDCOM, 1997). The AMEDD Medical Manpower and Personnel Optimization Study was recently completed in the early part of 1999. The information for the study will assess the most efficient use of medical military personnel for readiness support and still furnish medical care during peacetime at MTFs. The objective of the study is not to hire contract workers and reduce overall medical staffing but to optimize the utilization of military personnel (MEDCOM, 1999).

Description of the existing conditions. The Army does not effectively utilize a uniform method to assess community health and wellness needs or determine health promotion staffing requirements. Marshal Krueter, Ph.D. (1998), and President of *Healthy People 2000* states that the health risk appraisal (HRA) is single most important factor for determining the patterns and trends of disease and injuries. Recently, the military managed care system implemented a survey to identify health risks and collect data on its enrollees. The Health Enrollment Assessment Review (HEAR) for TRICARE

Prime enrollees is a system to evaluate the data from the collected surveys. The HEAR provides a comprehensive assessment tool to identify health risks and predict medical service utilization for an enrolled population (Welton, 1997). Currently, the TRICARE Lead Agent Office, Region One, reports a historically poor return rate of the surveys (less than 50%). A small number of surveys may not provide adequate information about the population to plan services and identify health risks.

The data trends suggest that an increase in health risks lead to a comparable increase in health care costs. Potentially, lowering health risks can reduce costs. Health risk assessments are a screening tool used to identify health risks of individuals. In addition, medical screening is common in most health promotion programs. Screening is a part of early disease detection that can lead to a reduction in medical expenses. Treating disease early with less invasive measures saves lives and saves money versus expensive treatments in the late stages of a serious condition (Aldana, 1998).

When discussing staffing guidelines with several health promotion directors, no single person was able to identify a standardized or consistent manner for establishing personnel needs. Personnel requirements for health promotion centers are determined in a variety of ways. For example, the installation or hospital commander may or may not support a health promotion program or wellness center. If the wellness center gains support, funding and personnel tend to follow. Otherwise, the health promotion programs and services suffer from a lack of resources. If the health promotion center is low on the overall MTF priority list, other departments may receive funding first. Some wellness centers struggle to simply provide basic programs and services by using the available personnel in the health care facility. Due to multi-tasking of military personnel, some

individuals assigned to a health promotion and wellness center (HPWC) may have normal duties in another clinic. Often, military training and other responsibilities reduce the consistent manpower necessary to support health promotion activities.

Apparently, military health promotion and wellness center personnel are determined in a variety of ways. Without consistent personnel guidelines, the available funding for a particular fiscal year influences the staffing level. The command may decide to support a health promotion center and provide appropriate levels of personnel and resources (A. Archibald, personal communication, 28 September 1998). Some health promotion centers may use medical hold personnel and temporary staff. Nevertheless, inconsistent staffing methods seem to be the normal process to obtain personnel.

Many health promotion directors determine staffing solely from an educated guess by estimating the potential use of the health promotion center from the current services offered (L. Kostner, e-mail correspondence, 22 September 1998). Most often, historical needs and subjective information determine health promotion staffing. Wellness center administrators may be resistant to a standardized staffing model, especially if it does not positively benefit the health promotion center. The right number of people is essential, but most importantly, finding the right type of professionals to meet the specific mission is crucial. The personnel working in a health promotion center must be qualified and knowledgeable about wellness issues. A viable program must maintain credibility with skilled professionals as a basic staffing requirement.

Health promotion supports a fit and fighting force for the readiness mission. Healthy and fit military personnel are ready for rapid deployments. Once deployed, a fit force has much lower rates of disease and non-battle injuries (DNBI) and will recover

more quickly than one who is not. Over the years, preventable illnesses and non-battle injuries have had more casualties than actual battle injuries. Health promotion and wellness programs can help improve the readiness of the armed forces by providing training and interventions for wellness, self-care, and healthy lifestyle behaviors. Overall, health promotion can increase the war-fighting capability, optimize the effectiveness of military personnel, and act as a force multiplier (Sculley, 1997).

The Marines Corps motto *Semper Fidelis* means “always faithful” ties to its Health Promotion Program called *Semper Fit*, meaning “always fit”. The Marines Corps likens unhealthy lifestyles as the enemy that decreases effectiveness and destroys lives. The education and training of *Semper Fit* provides tools for Marines to reach optimum fitness and well-being to create an “ultimate warrior”. Each Marine must properly maintain and care for personal health like a weapon. The Program focuses on preventing disease, reducing medical costs, increasing job satisfaction and productivity, and reducing absenteeism. For every invested dollar, approximately three dollars returns to the health system (U.S. Marine Corps, 1998).

No matter what the branch of military service, beneficiaries enrolled in medical managed care require a continuum of health care. For example, referral mechanisms integrate primary care routine services into health promotion plans. Health educators and primary care providers can provide the health care to the population with careful consideration of the community. To understand how to meet the health promotion needs of the population, the goals, concepts, and definitions should be explained to all the individuals involved in the planning and patient care process.

## Literature Review

Goals, concepts, and definitions of health promotion. How does health status define and measure individuals or a group of people? In itself, the definition of health is highly subjective and controversial. Health, disease, and illness are not easy terms to define. Health may be defined as the absence of disease or a state simply free of symptoms (Kropft, 1995). Webster's Unabridged Dictionary defines health as "physical and mental well-being, freedom from defect, pain, or disease". The World Health Organization goes a bit farther to define health as not simply absence of disease but "a state of complete physical, mental, and social well-being". In fact, well-being is quite subjective and may simply describe a person's feelings or mood at a particular time (Downie, Tannahill & Tannahill, 1996). An idealistic perspective describes health as a "state of optimum capacity for effective performance of valued tasks" or "personal fitness for survival and self-renewal, creative social adjustment, and self-fulfillment" (Banta & Jonas, 1995, p. 13).

Often, the terms of disease and illness are used interchangeably although they do not mean the same thing. A disease identifies the medical problem; whereas, illness describes how the person feels. In fact, a person can have a disease without feeling ill and vice versa (Banta & Jonas, 1995). In the past, medicine focused on disabilities, diseases, avoiding death and reducing symptoms. After a patient recovered from the disease, but without a discernible state of well-being, medicine did not have much else to offer. Some people want to improve health and not simply avoid disease. Health promotion can have a great impact by moving towards optimal health (O'Donnell, 1992):

Health promotion is the science and art of helping people change their lifestyle to move toward a state of optimal health. Optimal health describes the balance of physical, emotional, social, spiritual, and intellectual health. Lifestyle change is facilitated through a combination of efforts to enhance awareness, change behavior, and create environments that support good health practices. Of the three, supportive environments will probably have the greatest impact in producing lasting changes. (pg. 1)

The primary goal of health promotion is to empower individuals to take care of their own health. It provides health education, prevention, and health protection, along with positive health goals to provide the necessary information and skill development for people to have control of health issues. Positive health is developed by encouraging preventive measures such as exercise, eating right, using appropriate safety procedures, and managing stressful situations (Downie, Fyfe, & Tannahill, 1994; Downie, Tannahill & Tannahill, 1996).

Health promotion and prevention are other terms often used simultaneously. Health promotion refers to the broad concepts of advocating health through education, environmental changes, and health education (Dignan & Carr, 1992). Prevention usually refers to reducing the risk of disease, illness, injury or some other hazardous health circumstance. Several different areas recognize prevention issues. For instance, preventive services include immunizations, screenings, and the application of dental sealants. Health protection refers to regulations, policies, and codes of practice to reduce the hazards in the environment. Policy-makers mandate the widespread use of seatbelts or require the fluoridation of public water supplies to promote health. Positive health

education aims to influence behavior and teach life skills to enhance personal well-being. Obviously, health promotion involves overlapping the three realms (Downie, et al., 1996).

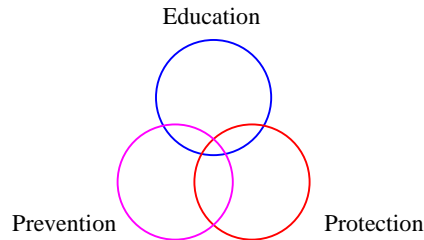


Figure 1. A model of health promotion (Downie, et al., 1996, pg. 59)

To properly identify the needs of the population for appropriate programs and services, a health promotion director must ask several questions. For example: How does one determine what type and number of personnel for a specific type of health promotion and wellness center (HPWC)? How do the TDA authorizations and requirements fill the positions? Where do these personnel come from and who funds the salaries? What is the population served with consideration for geographical and demographic factors? What types of programs, services, and classes will meet the specific population needs? Does the HPWC have command support? How will the wellness center receive funding? What are barriers to meet these needs? What are the priorities, mission, and vision of the supporting health care organization? Do the long-term cost savings (or cost avoidance) justify the positions? Are policies and procedures outdated or do they meet the current needs? The answers to these questions will help formulate a business plan, mission, vision, and overall guidance for the wellness center.

Preventive services and programs. One of the main reasons health care is so expensive is due to cost-intensive medical care such as low birth-weight babies and high-

priced testing procedures. In addition, greater demand for services and technology increases the total spending for medical care each year. In 1993, the United States spent over \$900 billion dollars on medical care, worth over 14 percent of the Gross National Product. Each year, expenditures are rising about 12 percent. By the year 2000, the medical expenses will total over \$1.6 trillion annually (Feldstein, 1994). According to Dr. Louis Sullivan, the former Secretary of Health and Human Services, illnesses related to cigarette smoking alone cost over \$65 billion each year. As one of the top ten killers in the United States, smoking is almost an entirely preventable disease that causes premature death, personal injuries, crime, and lost productivity. Obviously, the health care system focuses on disease management rather than health promotion, protection and prevention. In many instances, very little money supports the follow-up of test results and providing health promotion and disease prevention information to patients (Banta & Jonas, 1995). We must change the public's image to view health care in a new way.

Wellness programs are relatively new in the military and many of these programs are fragmented. To ensure a certain level of service, the Department of Defense (DoD) developed core components targeted at each population, based on the risk factors of that particular group of people. The core components, identified by the Department of the Army Health Promotion Council, built the groundwork for all health promotion programs. Based on the results of *the DoD 1995 Worldwide Survey on Military Health Behaviors*, the core components for the health promotion program will include these topics: tobacco cessation, physical fitness, nutrition and weight control education, stress management and suicide prevention. In addition, hypertension education, sexually transmitted diseases and HIV prevention, oral health fitness, spiritual fitness, clinical

preventive screening, cancer screening, blood pressure screening, immunizations, injury prevention, and self-care are included. The whole focus of military health promotion relates to self-care of the individual by taking responsibility for informed health care choices which can decrease the number of hospital visits and improve the readiness mission (USACHPPM, 1997).

Several of the *Healthy People 2000* goals align with the core components for the Department of Defense (DoD) to combat risky health behaviors. Some of the significant objectives: reduce cigarette smoking to no more than 20% among military personnel; reduce the number of unintentional injuries that need hospitalization to less than 754 per 100,000 people; and increase the number of people who take action in controlling their blood pressure to at least 90 percent. Additional goals include increasing the number of people getting their blood pressure measured and take action for high blood pressure to at least 90 percent, and increasing the number of adults obtaining a cholesterol check within the last five years. Gender specific goals include: encouraging a greater number of women over 40 receiving a clinical breast exam and a mammogram, at least 95% of women 18 years old and older receiving a Pap test, and increasing abstinence from tobacco by pregnant women to at least 90 percent (USACHPPM, 1997).

Over 17,000 military personnel from each of the services completed the *1998 DoD Survey of Health Related Behaviors Among Military Personnel* (Bray, et al., 1999). This survey reflects the prevalence of risky behaviors in the active duty population, indicates the negative effects of substance use, and monitors progress towards selected *Healthy People 2000* objectives. Some of the major concerns for military health include: the use of smokeless tobacco, controlling high blood pressure, and reducing injuries that

require a hospital stay. Improving the health of soldiers with these problems can increase performance levels, productivity, and mission readiness. Heavy drinking is a poor health behavior that is consistently at higher levels for the military than its civilian counterparts and may increase the likelihood of certain diseases. Indeed, the current health habits of military personnel will effect the risk for disease in later life. Unhealthy practices can interfere with keeping a high level of military readiness and may negatively effect military discipline. To address these issues, the DoD has strengthened the emphasis on health promotion by doing a better job of assessing health behaviors and monitoring the military progress to meet the *Healthy People 2000* objectives. The military has made significant progress over the past 18 years with a downward trend in illegal drug use, cigarette smoking and alcohol-related problems. In particular, military regulations help meet some of the *Healthy People 2000* objectives for certain desired behaviors such as weight control, exercise, seat belt use, and annual Pap tests (Bray, et al., 1999).

As of 1990, the top ten causes of death in the United States included heart disease, cancer, stroke, and injuries. Behavior modifications and education could have a significant impact on reducing medical costs and improving the general health condition of the population. The objectives of the United States Department of Health and Human Services (US DHHS) include several priority areas to control costs and incidence of disease. The objectives include: physical activity and fitness, nutrition, tobacco, alcohol and drugs, unintentional injuries, safety and health, maternal and infant health, heart disease and stroke, cancer, and diabetes (Banta and Jonas, 1995). In 1991, approximately 1,000,000 deaths were attributed to tobacco use, diet and activity patterns, alcohol use, and the use of illegal drugs (Jonas, 1995).

Several national reports describe the impact of disease prevention on the health care costs of our country. The 1991 report from the Department of Health and Human Services, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, contains recommendations from Dr. Louis Sullivan, the former Secretary of Health and Human Services. Dr. Sullivan's (March, 1999) keynote speech at the American Congress of Healthcare Executives Meeting, emphasized the importance of health promotion and disease prevention to reduce the expenses associated with treating preventable illnesses to help Americans become more productive and healthy. Consequently, the United States spends approximately 65 billion dollars annually on preventable illnesses related to cigarette smoking. According to the Surgeon General, tobacco use is the single most significant preventable cause of death and disease in the United States. Health promotion measures could save significant amounts of money spent on alcoholism and drug abuse which cost over \$100 billion in treatment, injuries, crimes, and lost work hours (Banta & Jonas, 1995; Bray et al., 1999).

Furthermore, another way to reduce costs is through demand management activities. Five different interventions can help lower health care costs, provide a competitive advantage, and give the beneficiaries additional service. For example, a nurse advice line provides information about medical symptoms, health promotion, and preventive care from the comfort of home. Educational self-care programs are another successful avenue to teach people how to take care of themselves and reduce hospital visits (Kongstvedt, 1996b). In the 1980s, self-care programs indicated significant costs savings of \$2.50- \$3.50 per dollar invested. One study estimated savings of \$4.75 per dollar invested for an advice line and self-care program combination. The self-care

program alone showed a savings of \$2.40 per dollar invested (Kongstvedt, 1996b). The intent of self-care programs is to educate people to care for themselves through information. A self-care handbook provides advice for common medical complaints along with regularly scheduled preventive maintenance care information. An example of a self-care book is Healthy Self: The guide to Self-Care and Wise Consumerism (1995), published by the American Institute for Preventive Medicine. At the former Fitzsimons Army Medical Center, the Healthwise Handbook: A Self-Care Manual for You (Kemper, 1991) was distributed after a two hour educational session. In the same way, Fort Leonard Wood Army Community Hospital and other military treatment facilities use educational programs and self-care manuals to reduce demand on primary medical care services. In a staff model HMO (similar to the military), the use of self-care manuals and programs resulted in fewer outpatient visits and health care savings of \$2.40 to \$2.77 per dollar invested (Kongstvedt, 1996b).

According to a well-known and credible self-care manual, Take Care of Yourself (Vickery and Fries, 1994), as many as 70% of doctor visits are medically unnecessary for problems such as the common cold and minor cuts. A large, five year study of 3700 individuals in an HMO showed a 17% reduction in the total number of medical visits when compared to a random control group that did not use the Take Care of Yourself manual. A 1993 study of 6000 Bank America retirees showed a 15% reduction in health risks for those who received the self-care manual when compared to a control group. In addition, this randomized two-year control study showed savings of about 300 dollars per person. Patient educational programs, disease management interventions, and decision-making programs enhance appropriate utilization and decrease improper use of medical

services. Staying healthy reduces the need for medical visits. Through education, consumers are more informed to make better healthcare decisions and use only the services they really need (Aldana, 1998).

Another form of demand management includes medical informatics in the form of information technology. For example, on-line services or kiosks can provide information to patients for common medical conditions or preventive measures. Shared decision-making programs allow the member to choose the course of care. Usually, interactive CD-roms, videotapes, or computer programs provide information for the medical process (Kongstvedt, 1996b).

Lastly, the trademark for lowering demand in managed care includes preventive services and health risk appraisals. The services and programs usually include immunizations, routine physical examinations, mammograms, and health behavior counseling such as smoking cessation, stress reduction and dietary education. Health assessments and counseling address behavioral issues to reduce the risk factors and costs of poor health. For example, one program discovered that for employees who participated in a prenatal educational program, health care costs were \$3200 less per delivery than for those who did not participate in the program (Kongstvedt, 1996a).

Identifying costs and numbers of patients can be complex. To track the health care costs, one must determine the best way to count either referrals or patient visits. Kongstvedt (1996b), recommends tracking actual patient visits to identify the total utilization of how many individuals seek care in a specific clinic. In a managed care system, the total expenses of utilization of the health plan may exceed 40 percent. (The quantity of services provided multiplied by the cost of that service equals the total

utilization expenses for the organization). Therefore, controlling the use of health care services is a priority to manage costs (Kongstvedt).

Before a health organization can begin to develop health promotion programs, it must have a clear concept of health promotion and wellness (O'Donnell, 1992). Glanz and Oldenburg's chapter, "Health Promotion and Education" (1997) defines health promotion and its concepts in many ways. For example, health education emphasizes efforts to bring about behavioral changes for enhanced health. Another definition of health promotion explains health education as the process of helping individuals to make informed decisions about matters affecting personal health. Health promotion may be any combination of health education in the form of organizational, economical, and environmental support. This health education supports behavior conducive to health for individuals, groups, or communities. The most commonly noted definition of health promotion is described by O'Donnell (1989), as noted previously, and is often referenced in health promotion literature (Gochman, 1997; U.S. Army Center for Health Promotion and Preventive Medicine [USACHPPM], 1997; O'Donnell, 1992).

Planning for Health Services. Planning is not a scientific process using only mathematical formulas, computer programs or data. In fact, planning needs to involve politics and the analysis of information. Educating decision-makers within a political environment can be a difficult process but is necessary for the success of the organization (Kropf, 1995). Communication, cooperation, and coordination between those who provide health care, receive, and plan services are necessary components of effective planning.

Many health care organizations must compete for market share, keep up with technological advancements, and maintain low prices. To meet these goals, managers have turned towards strategic planning. Three major strategies affect health care products and services: vertical integration (an organization incorporates many stages of care within its scope), horizontal integration (several operations produce similar products), and diversification (expanding or adding existing services). Strategic planning includes determining the best way to use funds to meet long-term goals, selecting alternative use of resources, and forecasting future needs while marketing to identify the needs and wants of the consumers (Kropf, 1995).

Health promotion and prevention activities can fit into the strategic plans of health care organizations. In horizontal integration, specialized health care staff and services share reduced costs with other divisions. Vertical integration could include outpatient services for preventive and wellness care with referral systems in place for treatment services. Lastly, diversification may include fitness centers, disease detection screenings, and substance abuse treatment programs (Kropf, 1995). To determine appropriate health care services, the population data are collected and reviewed for a particular area. First, identify the demographic characteristics. Next, measure the health and disease status of the population in terms of death and sickness. Finally, measure the utilization of health services for who uses what kinds of health care (Jonas, 1995). As seen in Figure 2, the health services and program planning can begin after quantifying the characteristics of the population. After identifying the health requirements of the population, the program plan is developed and then implemented. The programs undergo an evaluation on a regular

basis and compare to the community analysis for appropriateness in meeting the needs of the population.

For a health promotion center to properly administer and support wellness programs, the appropriate personnel must be available to staff the clinical and administrative responsibilities. A planning group must identify the current resources that exist within the organization, and then determine what outside resources are available. In addition, some constraints such as a lack of trained manpower are a barrier to full implementation of a personnel plan (Dignan & Carr).



Figure 2. The health education/promotion planning model (Dignan & Carr, 1992, pg. 2)

Planners should first focus on the completion of program tasks before identifying all the personnel required. Some of the tasks may include: program planning, identifying resources, coordinating clinic space and classrooms, ordering and obtaining informational

materials, managing clerical work, making appointments, keeping attendance and budget records, and coordinating referrals to other providers. Appropriate personnel must be available to teach classes, provide administrative support and health care services, and coordinate medical care with the local clinic or hospital (McKenzie & Jurs, 1993). One problem health promotion centers encounter is the number of self-referred individuals. It is difficult to estimate the number and type of patients who will walk through the door. Consequently, planning the right types of services and appropriate personnel can be even more complicated (Kongstvedt, 1996a).

When planning for personnel resources, several options are available. Health promotion programs may employ full-time, part-time, or temporary civilian personnel. Health care providers may include military personnel and contractors. Medical hold personnel may temporarily assist as clerical help or a receptionist. Other internal resources such as nurse practitioners, gynecologists, and radiologist may provide preventive care within the organization's health care system. Outside options for augmenting personnel support include consulting agencies, government health agencies, extension services, sharing agreements with other health organizations, volunteer services, universities or colleges, or other military medical facilities. Speaker's bureaus often have experts available to speak on a variety of health topics for little or no cost to groups. The experts can provide excellent information along with the benefits of public relations and personal exposure through speaking experience and recognition (McKenzie & Jurs, 1993).

The command structure plays an important role in the funding and personnel resources provided to the health promotion/wellness centers. Consequently, frequent

changes in leadership due to military moves often causes inconsistent support to health promotion centers. In some instances, the TRICARE subcontractor provides supplemental personnel to the military health facilities at health promotion and wellness centers. The contract pays for personnel although does not cover materials or lesson plans. The Lead Agent Office for Region One is responsible for providing the patient education materials and lesson plans for the contract instructors (L. Turpin, Health Enhancement Coordinator, TRICARE Region One Lead Agent Office, telephone communication, 3 December 1998).

Clearly, the interest, support, and willingness of top management to provide money and personnel are critical for success. Defining and clarifying the unmet needs and wants of the population can optimize participation and allow customization of the programs for the local community (Jonas, 1995). The Army Health Promotion Program success relies heavily on the installation and commander support to achieve its overall goals (Army Regulation 600-63, 1987). Usually, the installation commander controls the health promotion program through the Health Promotion Council (HPC). The members of the HPC group have several responsibilities. The members identify existing health promotion program strengths and weaknesses and provide access to existing resources. To determine what programs will best fit the specific area, the group must assess the community requirements and develop a plan for the program based on the health and fitness needs. Overall, the development of a comprehensive marketing plan based on existing resources, demographics, and the fitness needs of the population can significantly impact the success of the health promotion planning process (Headquarters, Department of the Army [HQDA], 1987). To provide useful information to the decision-makers, a

few key issues must be described: the health of population, the competition, what the people desire versus their needs, and past utilization of health services (Kropf, 1995).

A health risk appraisal (HRA) is one way to obtain information about individual health risks for a population. In addition, data about consumer behavior, attitudes, knowledge, and beliefs is collected. A health risk survey can reveal a health profile of the person along with suggestions to improve the behavior through lifestyle changes. A summary report can help a primary care physician keep track of preventive care, provide appropriate counseling and treatment, and refer the patient to prevention services (Kongstvedt, 1996). The military uses several different types of surveys to gather information: the HEAR, the *DoD Health Behaviors Survey*, and the MEDCOM customer satisfaction survey.

Overall, “The goal of the Army Health Promotion Program is to maximize readiness, combat efficiency, and work performance” (HQDA, 1987). The Army Health Promotion Program in AR 600-63 offers many programs to encourage behavioral changes to improve and protect physical, emotional, and spiritual health. The regulation includes ten main activities which include: anti-tobacco education, physical conditioning, weight control, nutrition, stress management, alcohol and drug abuse prevention and control, early identification of hypertension, suicide prevention, spiritual fitness, and oral health. The health promotion concept seems to be moving away from a centralized 'health promotion center' and towards an integrated health promotion continuum across the entire health care system. Other health promotion activities in AR 600-63 (1987) include physical and dental exams, health risk appraisals, physical fitness facilities, recreation and leisure education, and activities to promote social and emotional well-being. Through the

guidance of the regulation, the Army has quite a responsibility to provide health promotion and wellness activities to its active duty personnel, family members, and retired personnel. Factors such as funding, personnel, facilities, and command support may hinder or help the success of a health promotion or wellness center.

The nature of health promotion and health education is multidisciplinary and requires several different types of professional medical experts to collaborate, cooperate, communicate and integrate their skills for patient care. Coordinating and synthesizing the information from each of the specialties can be challenging (Glanz & Oldenburg, 1997). Therefore, the expansion and interest in health promotion and education has brought about more attention to the 'health educator' position. One problem with the increased demand for health education is the lack of persons with specific training required to call themselves 'health educators'. Professional organizations became concerned with this issue and created the Certified Health Education Specialist (CHES) by the National Commission for Health Education Credentialing in 1988. Besides qualified health educators, many professionals with other types of training are appropriate health educators such as nurses, dietitians, psychologists, and industrial hygienists. The multidisciplinary nature of health promotion requires practitioners to integrate their expertise for health education activities. The main responsibilities for health educators in health promotion programs include assessing individual and community needs for health education along with planning, implementation, and assessing the effectiveness of health education programs. Coordinating the requirements of services; acting as a resource person in health education; communicating the health education, concerns, and obtaining resources are vital for a success curriculum (Glanz & Oldenburg).

Civilian staffing strategies. The group model of Kaiser Permanente somewhat resembles the staff model MHS. The Kaiser model was a guide for the primary care regional staffing model designed in part by LTC Kim Marley (personal communication, 6 October 1998). With 9.2 million members, Kaiser Permanente is the largest health care organization in the United States. As a national leader, Kaiser Permanente has provided health care for over 52 years. The health care professionals are "committed to preventive care and helping their patients achieve their best possible state of wellness" (Kaiser, 1998a). According to Pat Greenfield, Medical Facility Administrator for Kaiser Permanente in Baltimore, health promotion is "doctor office based" (personal communication, 31 March 1999). In general, most of the Kaiser hospitals and clinics do not have centralized health promotion centers. Instead, the decentralized health promotion programs provide services throughout the health care system. Patients receive a referral to the appropriate clinic for the service or the physician directs them to the appropriate health classes at the medical centers.

In the civilian workforce, population based benchmarking is a common calculation for physician staffing. Overall, the number of clinical physicians is compared to per capita number, with age and gender adjusted differences and out-of-region health care utilization (Goodman, et al., 1996). Health maintenance organizations (HMOs) frequently use ratios to estimate the national clinical workforce staffing requirements. The analysis simply examines physician-to-member ratios and the number of other health care providers to estimate clinical staffing needs. These ratios strongly correlate with the HMO size (Dial, Palsbo, Bergsten, Gabel, & Weiner, 1995).

In closed panel HMOs, primary care physician staffing ratios are determined according to the number of members in the health plan. Sometimes, the staffing ratios may vary if it services a significant Medicare and/or Medicaid population. Usually, staffing ratios are in terms of full-time equivalents (FTEs) to address the workload with a common factor. Two of the most common units to measure staffing are physicians per members and physicians per 1,000 members. For example, 1:1300 refers to one physician per 1300 members or 0.80:1000 means eight-tenths of an FTE physician is assigned per one thousand members. The ratios may also refer to other primary care providers such as nurse practitioners and physician assistants (Kongstvedt, 1996c).

The Upper Chesapeake Health System (UCHS) in northeastern Maryland provides community health promotion and preventive services through an outreach program structure. Debbie Egerland, the Marketing and Public Relations Director, is responsible for training and recruiting individuals from the UCHS staff to work at the community events. The hospital employees who support the HealthLink programs receive their pay from a independent fund since the work is separate from their regular duties. The professionals include a pool of 78 nurses, physical therapists, dietitians, and health educators. The program employs three full-time positions which include the Marketing Director, a Marketing Assistant, and the HealthLink Coordinator (a nurse health educator). Besides several other tasks, the Marketing Assistant is responsible for scheduling events and the staff to support them. For this particular hospital system, the funding is generous compared to most military health promotion programs. A professional firm conducted a comprehensive community health assessment survey to identify the health needs of the population. In addition, marketing and educational

materials are abundant. Furthermore, the HealthLink Program purchased a 28 foot long mobile screening van to conduct testing and preventive services throughout the region (D. Egerland, personal communication, Upper Chesapeake Health System, May 1999).

While most civilian health care organizations tend to have a small number of facilities within its boundaries, the Military Health System (MHS) must deal with staffing issues on a much bigger scale. Overall, the MHS must look at the similarities of health promotion centers and combine the efforts into a more consistent method of determining staffing. Collecting information and asking standard questions from each facility can provide trends and a baseline for tracking similar community health needs.

Military manpower. The Military Health System most closely resembles a staff model by directly employing the providers. The staff system is more than just a hospital; it is a large, inclusive organization of health care delivery. Usually, staff models have an easier time in recruiting new physicians. The physicians enjoy the advantage of not incurring costs to join the system and the salary flow begins immediately after employment. Another advantage of the staff model is its ability to provide objective reasons for resource requirements to align with the goals of the company. As a salaried employee, many health care providers are not motivated to see high numbers of patients. Low productivity may be a problem for the organization, especially since the employees may be enticed to join other organizations with no investment loss to the individual. With a large organization, economies of scale can reduce the overall costs to the system (Kongstvedt and Plocher, 1996). A disadvantage of the health care system is the false presumption to manage all the health care providers in the same way. Highly trained

professionals receive autonomy to operate effectively; otherwise, the providers may leave the system.

The military health system has guidelines for its manpower requirements to include both civilian and military positions, otherwise known as The Table for Distributions and Allowances (TDA). The Army Authorization Documents System (TAADS) is an automated system that helps to determine the requirements and authorizations for the necessary personnel to carry out the missions of Army units. The Army Medical Department (AMEDD) Personnel Proponency Office is responsible for determining the ranks and positions of the military personnel. The number of positions are established by the Medical Command (MEDCOM) and are separated into requirements, the number of personnel authorized for those positions, and the actual number of people employed in the designated positions. The required strength refers to the minimum number of people needed carry out the mission adequately. The authorized manpower is the positions supported by the Program Budget Guidance (PBG) document from the Department of the Army Headquarters (HQDA). The PBG provides information about the military and civilian allocations for the current year's budget and all the program fiscal years (MEDCOM, 1997). Often, the requirements and the authorization numbers do not match due to budgetary constraints. Nevertheless, regular manpower studies assess the appropriateness and number of the positions.

Full-time equivalents (FTE) are a way to measure the number of hours worked and calculate manpower. Full-time equivalents normally equate to 2080 productive hours per year (40 hours per week times 52 weeks per year). The Veterans Administration (VA) staffing model determines the total FTE requirements by dividing the total time

requirements by the productive hour per FTE for clinical work. This information can help determine the total direct patient care hours and the personnel requirements to maintain the programs (VA, 1998).

Non-productive hours = leave + sick leave + education and training + admin duties Two 15 minute breaks per day – overtime hours
Total time requirements = 2080 hours per year – total nonproductive hours Per FTE per year
Total FTE requirements = $\frac{\text{Total time requirements}}{\text{Productive hours per FTE}}$

Table 1. Full-time equivalent calculations - VA (Veterans Administration, 1998)

The Army also uses FTEs to represent manhours in a consistent manner. To collect this information, the Uniforms of Accounts Personnel System (UCAPERS) automated system captures manpower data and personnel expenses from each department in the organization. Only fixed medical and dental treatment facilities use UCAPERS, not field units. The system looks at military and civilian pay dollars to track labor expenses for each of the work centers. To provide consistent and uniform data, account codes identify inpatient, outpatient, and dental patient care. The UCAPERS data furnishes information to the MEPRS account. In fact, several data management systems feed into the MEPRS which performs operations to collect uniform data (MEDCOM, 1998).

According to Ursula Henry, Management Analyst at the MEDCOM Manpower Division, (e-mail correspondence, December 1998), MEPRS counts FTEs as 168 hours per month. Individuals in MTF work centers record their work hours according to coded categories. Usually, each department uses basic codes for comparable work and different codes for specific types of workload. The calculations for FTEs determine the available, non-available, and assigned FTEs for each work center.

Available FTEs = $\frac{\text{total number of available hours}}{168 \text{ hours}}$
Non-available hours = sick leave + annual leave + other non-work hours
Non-available FTEs = $\frac{\text{total number of non-available hours}}{168}$
Assigned FTEs = $\frac{\text{number of work days person assigned to the work center/month}}{\text{Number of work days in the month}}$

Table 2. FTE types for MEPRS data (MEDCOM, 1998).

Currently, the MEPRS is on the Surgeon General's *TOP 20* list of critical issues for the Army Medical Department. The perception of flawed data indicates the need to review the processes and data management systems to provide the most accurate information possible. Poor record keeping attributes to some of the errors, especially when personnel lack the training for data input.

As with any industry, labor costs are a large portion of the annual budget. An improvement in the initial workload data leads to better information for decision-makers and better management of labor costs. The MEPRS data provides standard reports for workload, FTEs, labor expenses, available hours, personnel expenses, contractor man hours, along with rosters for each account. The data helps prepare cost modeling scenarios, justify resources, determine health care reimbursement rates, and distribute funds for capitation budgeting (MEDCOM, 1998).

Managed care is a new concept for the military and the use of capitated budgets adds another variable to determine manpower requirements for the MHS. Therefore, it is essential to determine the right amount of manpower for the Medical Treatment Facilities since capitated allocations include personnel. A new method of tracking manpower requirements, the Automated Staffing Assessment Model (ASAM), was developed by the

Manpower Division of the Health Care Operations Directorate, United States Army Medical Command at Fort Sam Houston, Texas. Currently, the ASAM only applies to Medical Treatment Facilities and not field units for manpower requirements (MEDCOM, 1997). The ASAM has fewer perceived flaws than the Benchmarking method it replaced in January 1997. The old method used benchmark times developed through correlation and regression analysis of the MTF experience and from reviewing civilian medical practices. The new ASAM is a computerized spreadsheet staffing assessment system that uses data extracted from existing data sources, such as the MEPRS, to identify the necessary information to achieve accurate documentation for the TDA. The strength of the ASAM is its ability to ties functions of manpower data together (P. Kelly, Senior Management Analyst, MEDCOM Manpower Division, e-mail and telephone correspondence, May 1999 & December 1998; MEDCOM, 1997).

The goal of the MEDCOM is “to identify the linear relationship between functions as to optimize the use of dollars, equipment, and personnel” (pg. 5, MEDCOM 1997). The main objectives of the ASAM are to help identify necessary departmental resources and improve the accuracy of the Table of Distribution and Allowances (TDA). This model provides a hospital commander with the minimum manpower requirements to accomplish the mission objectives. Identifying adjustments in resources can improve the utilization of allocated funds and help identify the most efficient use of personnel. Overall, the main differences between the RUBM and the ASAMS is the manpower pool. ASAMS calculates the current clinical workload to determine a minimum operational level. In contrast, the RUBM bases the staffing levels on the entire personnel pool

available for the region. In other words, the RUBM is population based (P. Kelly, telephone communication, 21 May 1999; MEDCOM, 1997).

The ASAM model uses *medical planning factors* for all the inpatient and outpatient services of the MTF. Statistical calculations from three years of historical manpower data from the clinical patient areas established these factors. The main factors for determining the types and number of personnel in the clinics and patient areas are outpatient clinic visits, inpatient nursing care hours, and occupied bed days. For support functions like resource management and logistics, the manpower team visited each MTF to collect workload data to calculate statistical non-clinical *medical planning factors*. The factors for both the clinical and non-clinical areas established a workload baseline. The number of hours to perform a task divided by the total workload is defined as a *unit time ratio* (P. Kelly, e-mail correspondence, 17 December 1998).

The MEDCOM Manpower Team conducts on-site visits to each MTF to collect and analyze manpower workload, man-hours, and related documents such as overtime logs for the organization to establish a baseline of workload. Preceding each on-site visit, the MTF committee members collect, validate, and then document the workload for the facility. Each division in the hospital provides workload factors for assigned personnel, actual personnel working in the MTF, occupied bed days, clinic visits, average number of patients, and average number of immunizations. The Manpower Team medical review requires certain reports such as: the Medical Expense and Performance Reporting System (MEPRS), Workload Management System for Nurses (WMSN), and Labor and Delivery (LADS). Reports also include the Statistical Identification system (STAT-ID), Post Anesthesia Care Unit (PACU), and Assigned Strength, Local Records/Local Log

Records. The reported workload compares to the mission requirements and historical information to project future staffing needs with the ASAM mathematical calculations. The MEDCOM Manpower Team interviews the management and staff to gain more individualized information of how each department executes its mission by asking, “What do you do?” In addition to the workload data, the Team reviews the business plan to verify the scope of the organizations, the goals, and issues (P. Kelly, telephone communication, 21 May 1999; MEDCOM, 1997).

As mandated by DoD, the ASAMs calculates the Army TDA manpower requirements in terms of 145 available hours per month in terms of FTEs. The model assumes an average of 22 hours per month as non-available time (leave, holidays, etc.) at the work center, as opposed to the MEPRS using 168 monthly hours and then subtracting the non-available time as an extra step. The MEDCOM Manpower Study conducts statistical regression and analysis to determine possible common staffing factors for MTFs. Upon completion of the study, the Manpower Team uses the ASAMS factors and calculations to making staffing recommendations to the hospital commanders. The new TDA may reflect adjustments in personnel although the utilization ultimately belongs to the discretion of the commander (P. Kelly, telephone communication, 21 May 1999).

According to most health promotion planning models, understanding the demographics of the population helps determine the health needs of the beneficiaries. In the same way, the MTF commanders must determine how the health promotion FTEs will best meet the specific mission for the unique population. All the health promotion activities convert into monthly manhours. Then, the commander can identify the amount, type, and most efficient use of personnel. Health promotion services are not the same

each site. In fact, none of the programs has standardized manpower workload factors due to the various program formats and locations. For example, some MTFs provide health promotion services at a centralized location while some refer patients to various clinics. If the MTF does not provide hospital-based health promotion services, the ASAM data is not collected. Nevertheless, the Manpower Study captures the health promotion work performed at the main central location or in the various clinics. *Medical Planning Factors* for health promotion include statistics such as: the average monthly number of patients, the number and frequency of classes, the number of health risk appraisals and physical exams. The specific factors also track nutrition counseling sessions, health training hours, administrative time, and the types of professionals required to conduct the functions. The workload factors for Preventative Medicine and Wellness include information for administrative support, the number of environmental health inspections, the number of training days, the number of patient visits and appraisals, and work site visits (P. Kelly, telephone communication, 21 May 1999; e-mail correspondence, December 1998; MEDCOM, 1997).

For providers who are not full-time employees of the health promotion and wellness center, the basic staffing guidelines can cross-track personnel through UCAPERS by identifying workload from the originating clinic and through the HPWC. Currently, the process is still in the planning stages to fine tune the reporting procedures and justify lending providers. Overall, determining what the population needs and matching them with the Army initiatives, meeting the health care organization's objectives, maximizing soldier readiness and taking care of patients are the overarching themes for military health promotion. The bottom line is: "if the commander believes

health promotion is important, you will be supported and much more successful” (A. Archibald, telephone communication, 30 September 1998).

Current strategies for military staffing. The Air Force Health and Wellness Centers (HAWCs) have staffing models that may provide helpful guidelines for the Army. The Air Force has published a handbook providing specific procedures and guidelines for implementing health and wellness centers on every major Air Force base. In addition, the Air Force Surgeon General established the Programming Guidance Letter (PGL 94-8) to provide general guidelines for establishing the HAWCs. The Major Commands (MAJCOMs) are responsible for developing the Programming Plans (PPLANs) for specific guidance and instructions (USAF, 1996a).

The HAWCs are one-stop shops to promote fitness and health through exercise prescription, prevention, and intervention programs. Overall, the goal of the HAWCs is to meet the minimum goals outlined in the HAWC guidebook. An implementation plan includes specific assignments of responsibility and information sources. For example, the Medical Group Commander is responsible for the Medical Manpower function and determining the tenure of the medical assets. The Human Resources and Management Development function is responsible for generating the performance standards and job descriptions for the assigned personnel. The Manpower Section is responsible for determining functional account codes, reviewing authorizations, and conducting studies to determine manpower needs above the core staffing levels (USAF, 1996b).

According to the Health and Wellness Center Base Implementation Guide (1996) and the USAF PGL 94-8 (1996), the core staffing requirements are four authorizations for most bases plus an additional medical technician at specified larger installations. The

manpower standard includes a Director, an Exercise Physiologist, Medical Technician/Health Risk Assessment Administrator, and an Information Manager/Receptionist. As available, two optional positions are the Nutritionist (Associate Director) and the Fitness Assessment Administrator (Appendix A). Chapter Two of the guidebook provides the health promotion managers and staff with clearly outlined functions and responsibilities of the HAWC. The main operations of the HAWCs include health and fitness assessments, exercise prescriptions, and programs for awareness, prevention, and intervention for health issues identified through the local strategic plan. Five programs are recommended as a baseline for addressing the following health issues: substance abuse, stress management, cardiovascular and cancer awareness, nutrition, and special awareness programs. Each of the managers is encouraged to adjust these general guidelines to meet the specific needs of the community. Other major responsibilities include: obtaining data about the health status of the beneficiary population; developing program plans, instructions, and objectives; establishing the HAWC within the available resources; and determining any additional manpower needs above the established core requirements (USAF, 1996b). From personal experience, both dietitians and fitness experts have a very active role in the education and intervention portion of health promotion activities. The HAWC at the Air Force Academy in Colorado Springs utilize both a dietitian and fitness specialist to conduct a majority of the wellness and fitness classes for a large number of beneficiaries.

The Department of the Navy has an excellent health promotion model at the Naval Hospital at Camp Lejeune, North Carolina which has established comprehensive standard operating procedures (SOP) for the Health Promotion Department (Beightol, 1997). The

SOP includes goals, objectives, and responsibilities for the programs and educational components. The SOP also outlines the basic educational programs to include the class format and specific instructions for booking appointments through CHCS. The Educational Component section outlines the program elements such as classes, the resource center, training aids, health fairs, and health risk appraisals. The Intervention Component describes intensive programs such as smoking cessation to promote significant behavior changes in a specific portion of the population. A framework for the Ongoing Process Improvement Plan lists goals and target objectives for the department. The overall implementation plan provides an outline of the critical information required for successful Navy Health/Fitness Centers (Beightol).

To track duty and training hours, all the active duty staff members of each department must turn in timesheets for the MEPRS report each month. To achieve an understanding of the current programs and projects for the department, a specific checklist outlines the required skills and competencies for all staff. The core staffing for the Camp Lejeune Health Promotion Department includes two permanent positions: a Department Head (GS-11 civilian) and a Patient Educator (GS-9 civilian). The Nurse Educator, Leading Petty Officer, and Administrative Clerk are augmented staff and are not considered permanent positions. Any additional contracted employees are allowed as funding permits (Beightol, 1997).

The staffing at the Wellness Center at Walter Reed Army Medical Center (WRAMC) was formed by combining the personnel resources from the Community Health Service and the Medical Nutrition Therapy clinics. The health care providers essentially perform the same tasks, services, and programs in the Wellness Center

compared to their previous duties but now collaborate and co-locate. The director is a nurse who supervises all the staff. The rating schemes may vary somewhat among the individual providers through the original departments. The proposed Table of Distribution and Allowances (TDA) includes eight requirements for personnel although only five of the positions are authorized: a nurse educator/director, dietitian, food service instructor, three community health nurses, a diet technician, and a secretary. As of May 1999, the Wellness Center is waiting for the final draft approval of the proposed TDA with an additional civilian dietitian for nine positions (see Appendix B). With this combined effort, a new code specific to the Wellness Center tracks workload through MEPRS. The consolidation to a central location did require some coordination and collaboration with other departments. In fact, a referral process for many of the primary care needs such as the Family Health Services, Psychology, Pastoral Care, and other departments provide specialized education (D. Strosnider, Director/Nurse Educator of Wellness Center, personal communication, 30 November 1998; e-mail correspondence, 5 May 1999).

Another Army health promotion staffing approach was explained by Amanda Archibald, Health Promotion Director in Heidelberg, Germany, (telephone communication, 28 September 1998). The individuals assigned from other parts of the hospital to support the Center were by commander appointment. In fact, some of the borrowed personnel are not on the TDA. The current positions include: a Health Promotion Coordinator/Director, a non-commissioned officer, a licensed practical nurse, two half-time Registered Dietitians, a Nurse Educator, and a full-time Community Health Nurse (see Appendix C). Similar to the Health Promotion Center at Walter Reed Army

Medical Center, the Heidelberg HPWC cross-tracks workload and overtime through the Uniforms of Accounts Personnel System (UCAPERS) and for loaned personnel from another clinic. By using a query in MEPRS, reports can provide workload data for the time and the number of patients seen within the specific health promotion code. In addition, cross-referencing individual providers by name can determine the workload in each clinic setting. Tracking the workload generated through the Health Promotion Center helps to justify the need for personnel. Demonstrating a shift in workload towards health promotion supports the paradigm shift to outpatient services.

At the initial inception, the Heidelberg HPWC had no vision or mission but did receive support from the command. After identifying the population needs, the health trends compare against the Army's top five goals. The program implementation processes were mainly data driven. The data is collected from the HEAR survey, Ambulatory Data Systems (ADS), the 1-800 Advice Line, and other reports. The Advice Line inquiries provide very specific health trends for the population. For example, several questions relate to upper respiratory and asthma related problems. Measuring outcomes helped to justify the appropriate positions to meet the health promotion goals such as smoking cessation and control of asthma. From that information, programs and services target the health needs of the population and warrant personnel to support them (Archibald, telephone communication, 28 September 1998).

Ms. Archibald developed a comprehensive written business plan to include a mission, vision, scope of service, goals, historical evolution, measurement tools for each goal, a proposed core staff, and annual budget needs (Archibald, e-mail correspondence, 1998). Although the Health Promotion Center appears to be well supported and

functional in all major areas, the approach to obtaining personnel is reverse of the normal recommended process. Usually, the needs of the population are first analyzed, then the personnel and resource requirements are identified, and lastly the mission and vision are defined. As a result, the Heidelberg clinic reflects yet another process to obtain personnel and resources for health promotion centers.

While the Army tends to base its health promotion programs in a centralized hospital location, a new trend is beginning to emerge. For example, the Corporate Wellness Program Task Force at Madigan Army Medical Center (MAMC) at Fort Lewis, Washington, is implementing a new concept in providing health promotion programs and services. The Task Force staff consists of a registered nurse, a licensed practical nurse, and a secretary who manage “a program without walls”. Many of the personnel assets are shared resources from MAMC and Fort Lewis. Each of the areas decides their own staffing based on the estimated number of soldiers who will participate. UCAPERS tracks the workload while ADS and the Composite Health Care System (CHCS) tracks the patient information. Currently, about 1250 individuals are seen through the program. As an additional duty, MAJ Linda Rowbotham, a dietitian from the MTF, shares the leadership responsibilities with the registered nurse. Patients receive the typical screening, intervention, and education services. The appropriate MTF clinical areas of specialization conduct the appropriate screenings for the particular health needs. For instance, nutrition screening are conducted by the registered dietitian. Screenings also take place for hearing, dental, optometry, the blood bank, obstetrics/gynecology, and the health risk appraisals. Various subject matter experts conduct the educational portion of the programs. The goals and concepts are similar to other military health promotion

programs, however, the approach is different than most. The services focus on the Army and DoD goals along with the needs of the line unit commanders (L. Rowbotham, Chief, Nutrition Intervention & Wellness Branch, e-mail correspondence, April 1999).

To implement this new concept, the providers and educators go to the patients, rather than maintaining a central location but the program is not simply a referral process. In fact, a unit commander schedules the entire unit through the Corporate Wellness Office and the appropriate health care personnel go on-site to the soldiers to conduct the required screenings. The individuals identified as high risk receive interventions follow-up at the MTF. If ten or more soldiers identify in the high risk category in one unit, on-site education such as injury or suicide prevention is conducted (L. Rowbotham, e-mail correspondence, April 1999).

#### Purpose (Variables/Hypothesis)

The purpose of this study is to describe the current methods and procedures used to determine staffing levels for health promotion centers. Discussions with health promotion directors and manpower experts provided insight regarding the overall processes for obtaining personnel. Review and analysis of documents such as SOPs, business plans, journal articles, manpower studies, workload data, and current staffing plans provided baseline knowledge. The health promotion programs, preventive services, facilities, current staffing levels, beneficiaries, and financial issues are identified.

Threats to reductions in staff often require justification of positions. Staffing guidelines are an essential tool to justify personnel to meet the health promotion mission. Staffing guidelines can provide standardized procedures to determine baseline personnel

requirements in Army health promotion centers. Once baseline staffing obligations are met, adjustments to the staffing levels can meet specific needs.

To determine staffing needs, one must review the current funding for personnel, assess the community demographics and wellness needs for the appropriate programs and services, review MEPRS data, consider the TDA requirements versus authorizations, and examine workload data. The staffing will differ at each installation because the commander's goal will vary according to the unique factors of the community (LTC Robert Landry, MEDCOM, telephone communication, 6 October 1998). According to Landry, the Command Management Staff must first determine the goals and mission of health promotion before making any other decisions. In addition, one must determine the health needs of the population and the appropriate interventions in the particular community to promote optimal health. The Army Regulation 40-501 provides minimum health standards for the military. The military has goals for health promotion to exceed the minimum standards of health. To justify the need for health promotion programs and services, a connection between the interventions and health status is critical. In addition, measuring outcomes must show cost savings (or cost avoidance) and health benefits before the decision-makers will continue resource support. To do this, the military must know the end goal of health promotion and set a target to meet those goals.

## Methods and Procedures

### Subjects or events

Two Army Health Promotion Centers were visited: the Mountain Post Wellness Center at Fort Carson, Colorado and the Wellness Center at Walter Reed Army Medical Center, Washington, D.C. An Air Force Health and Wellness Center (HAWC) at the Air Force Academy, Colorado Springs, Colorado was also visited to gather information about its health promotion operations. Directors and personnel at several health and wellness centers shared additional staffing and program information via e-mail, through interviews, telephone conversations and professional and regional meetings. A main portion of the most current staffing information was obtained from The Department of Veterans Affairs, Portland, Oregon; the Corporate Wellness Program at Madigan Army Medical Center in Washington; the Heidelberg Wellness Center in Germany; the Upper Chesapeake Health System (HealthLink), Fallston, MD; and the Health Promotion Department at the Naval Hospital in Camp Lejeune, North Carolina. Additional personnel contributed expertise from several areas: the Army Manpower & Allocation Branch at the Medical Command (MEDCOM) in San Antonio, Texas; the TRICARE Northeast Lead Agent Office and Walter Reed Army Medical Center in Washington, D.C.; specialty manpower and staff officers, and MEPRS personnel at MEDCOM in San Antonio, TX.

### Study design

Non-experimental research looks at a question or problem without manipulating any variables. Specifically, this study is descriptive because the information depicts the current methods used to determine staffing requirements. Descriptive research does not try to show influence on any variable but simply describes what is happening in the present situation (Salkind, 1994). The types of data include observational studies, site visits, personal correspondence, and the review of documents to determine staffing procedures for different types of health promotion programs.

Type of analysis. In contrast to quantitative analysis, this research information relies on qualitative information. As noted in Business Research Methods (Cooper & Emory, 1995), qualitative research uses several different approaches to deal with management questions. For example, this study used the following methods for data collection: in-depth interviewing, observations, photographs, a case study, and document analysis. The interviews and site visits furnished up-to-date information concerning real-time issues and staffing. The literature review strengthened the qualitative information by providing theories of health promotion and guidelines, cost analysis data, and reliable statistics.

A literature review provided basic background information about current methods for determining the status and existence of general staffing guidelines in the military and civilian sectors. Interviews and e-mail correspondence were the main source of current information since very little of the Army staffing information is documented in journals or books. An observational study at Fort Carson assessed the current health promotion program plan. From this information, a case study, issue analyses, comparison to other programs, and example applications are included. The observational analysis provides an

illustration of a plan in action and presents the opportunity to evaluate a health promotion program.

Schedule of procedures. E-mail and telephone conversations began in late August and early September of 1998. A meeting with the preventive medicine staff at Walter Reed Army Medical Center was held in October 1998. A briefing of the Regional Uniform Benefit Model (RUBM) provided an example of a Primary Care Staffing model. In January 1999, a visit to the health promotion and wellness centers at Evans Community Army Hospital at Fort Carson, Colorado, and at the Air Force Academy, Colorado Springs, Colorado, allowed observation and discussion of pertinent staffing issues. Visits to the WRAMC health promotion center and the HealthLink program (UCHS) were conducted in December and May, respectively. Contact with health promotion directors and manpower experts continued throughout the duration of the project. An ongoing literature search for background information induced additional questions for research

Regarding civilian Health Maintenance Organizations (HMO), the group model of Kaiser Permanente most resembles closely the military staff model HMO. Over a period of several weeks, multiple telephone calls to regional offices, various resource personnel, administrative staff, Medical Area Administrators and Medical Facility Administrators at the local Kaiser Permanente offices did not result in plentiful information. Each telephone call led to a referral to another person or office. Consequently, once the appropriate personnel were reached, they were unwilling to provide detailed information or documents about any type of health promotion staffing guidelines.

Case Study

Background. The idea for a comprehensive health promotion and wellness center at Fort Carson, Colorado began in October 1997. The current hospital commander, COL Eric B. Schoomaker, directed LTC Laura H. Kostner to coordinate a program for Fort Carson comprised of health promotion plus disease and injury prevention components. Three major goals are: provide centralized health promotion programs and services to the entire beneficiary population; implement a multidisciplinary approach to prevent disease and health problems; and to decrease the duplication of effort by improving the utilization of critical resources. Before the Wellness Center was developed, health promotion activities stove-piped efforts from many different sections. Community Health had three people dedicated to providing the majority of health promotion services. This small group stretched its capacity to provide essential services such as health risk appraisals, blood pressure checks, cholesterol screenings, and some basic prevention classes.

The Mountain Post Wellness Center (MPWC) opened in June 1998 with comprehensive wellness programs and services to the beneficiaries and targeted populations in the community. Approximately 75,000 total beneficiaries access the system in the area. The MPWC focuses on promoting healthy habits, improving readiness and quality of life by effecting health behaviors through all aspects of physical, mental, spiritual, intellectual and emotional wellness. The MPCW logo depicts the holistic approach of mind, body, and spirit. These words superimpose on a human shape in front of the mountains of Colorado. The staff wears uniforms and exercise suits that bear the logo to indicate the commitment of the Wellness Center. Some of the services include stress management counseling, fitness evaluations and exercise prescriptions, nutrition education, smoking cessation, self-care classes and a resource library. The

Strategic Business Plan (Appendix D) includes the current programs and services offered at the MPWC along with the delineation of responsibilities.

The MPWC is physically located a couple of miles from the hospital and shares a building with the Army Community Services, Family Life Chaplain, and the American Red Cross. The resources of the MPWC such as personnel, the annual budget, support supply, new equipment and programs are shared between the hospital, training units and garrison. The MPWC helps facilitate a multidimensional approach to preventing problems through the cooperation with these other organizations. By identifying and meeting the needs of the individuals who need assistance, the centralized location allows the organizations to work together to help improve the utilization of critical resources. As the inpatient workload decreases in hospitals, shifting some of the strong supporters and enthusiastic personnel to community health education programs and services is a resourceful move for a successful start (Kostner, 1998d; 1999b).

The MPWC is a critical factor in the success of the community prevention and health care curriculum. In fact, the MPWC supports two operations in the Fort Carson Strategic Plan: force sustainment and quality of life. The injury prevention and health promotion programs improve quality of life for all participants. In particular, these programs and services improve readiness for soldiers and increase productivity for the work force. In conjunction with Evans Army Community Hospital (EACH), the MPWC strives to deploy a healthy force by reducing disease and injuries. The mission and vision support the overall health care philosophy to include the mind, body and spirit into an effective wellness program to recognize the needs of the whole person (Kostner, 1999c).

The vision of the MPWC is to: “maximize our customer health and wellness potential”.

The mission is:

a total commitment to health promotion and disease and injury prevention strategies; working with the community to build comprehensive programs designed to increase knowledge of disease burden and levels of risk; and motivate people to develop and maintain healthy lifestyles (Kostner, 1998b, p. 2 ).

Information management is one way to provide the necessary objective data to convince leaders and decision-makers of the importance and impact of health promotion. For example, the Corporate Executive Information System (CEIS) can match the claims data to health risks and establish the link between higher health care costs and unhealthy lifestyle behaviors. The Ambulatory Data System (ADS) can show utilization rates with certain types of diagnoses. Once the baseline for the population is established and their health needs assessed, an intervention plan can address the health risks. After time, the baseline measurements can compare the health profiles after the intervention to indicate the changes (Kostner, 1999c). For each person seen at the Wellness Center, a set of measurements collects data such as: compliance with smoking cessation after the program and progress of fitness levels. In addition, the number of hospitals visits before and after intervention, job satisfaction, and compliance are part of the screening guidelines. Additional indicators are in Appendix D (MPWC Strategic Business Plan).

The staff at the MPWC in Fort Carson uses a commercially prepared survey to identify health risks of the population. Once the survey is complete, the data scan through a machine and generates a report. The report provides information about specific health risks and provides individualized recommendations to modify behavior. After the

potential health problems are identified, the beneficiary may seek preventive health care and counseling at the wellness center. A referral system is in place through the primary care providers (PCPs) at the hospital and surrounding clinics. The PCPs simply fill out a Wellness Prescription Pad referral slip to the MPWC and the patient can then make an appointment through the wellness care (Kostner, 1998d).

Staffing plan. LTC Laura H. Kostner, Health Promotion Director at Evans Army Community Hospital and Director, Mountain Post Wellness Center, Fort Carson, Colorado, states she was able to staff the wellness center by moving authorizations from various locations in the hospital. Kostner took the initiative to justify the appropriate staffing at the wellness center at Fort Carson. By writing a comprehensive business plan, she was able to document and articulate the initiatives and plans for the wellness center.

The Air Force Health and Wellness Centers (HAWC) have a standardized core staff of health promotion personnel. Conversely, the Army does not seem to have such consistent guidelines (L. Kostner, e-mail correspondence, 22 September 1998). The hospital commander envisioned more support for health promotion programs and agreed to move authorizations to a wellness paragraph on the staffing document. Kostner's recommendations for basic personnel requirements include: an exercise physiologist, dietitian, mental health professionals, chaplain, and administrative support personnel (Kostner, 1999c).

To staff the MPWC, one dietitian from the hospital works as a community nutritionist and all the outpatient nutrition classes move over to the wellness center. In addition, a 91M (hospital food service specialist) was approved as an authorized position to assist the dietitian in teaching classes. The mental health aspect supports one

professional and one 91X (mental health specialist) to teach classes and provide counseling. Currently, the staff also includes an exercise physiologist, fitness instructor, occupational therapist, management assistant (vacant position), nurse practitioner, licensed practical nurse, dietetic technician, psychological occupational therapist, and chaplain for a total of 13 permanent personnel. After a period of time, persistence, documentation and justification, the staff increased in numbers and diversity to provide a variety of services for the community. The accepted TDA has 13 permanent positions with no new authorizations. The positions simply reallocate to the MPWC although the lack of a permanent TDA may endanger the future of the Wellness Center. Currently, the hospital TDA is undergoing a review (Kostner, 1999a).

Kostner now has a generous staff of 17 full-time individuals, including borrowed military help and part-time individuals. Kostner developed a written staffing guide to include the staff responsibilities, rank or grade, and originating source of personnel (see Appendix D, attachment 1). The recommended staffing plan includes a branch immaterial director, an assistant director with an exercise physiology background, a military dietitian, a psychiatric occupational therapist, a nurse practitioner, two Licensed Practical Nurses, and a management assistant from the hospital TDA. The 10<sup>th</sup> Combat Support Hospital (CSH) is located on Fort Carson and supports the staffing at the MPWC. A Memorandum of Agreement (MOA) is in place to provide enlisted personnel: an Noncommissioned-Officer-In-Charge (NCOIC), Food Service Specialist, and three medical specialists. The Wellness Center is also supported part-time by an occupational therapist, a chaplain, and a psychologist. Ever since its opening, the Wellness Center has consistently received assigned Medical Service Corps (MSC) officers with an exercise

physiology background. To maintain a high level of expertise, great care is given to ensure the staff receives cross-training in other areas of the Center besides maintaining their required training and certifications.

According to Kostner, the support documentation for these positions includes a detailed business plan with goals, objectives, an implementation plan, and measurable outcomes. In addition, the plan includes critical needs for success, space and room requirements, a budget, return-on-investment information, equipment, proposed programs, staffing requirements, and services offered. To show the effectiveness of the programs, metrics must track costs, benefits, and workload to justify dollars. Reducing health risks and efficiently using resources are ways to demonstrate a return on the investment. (Kostner, 1999b). The implementation plan suggests a working action team to facilitate communication and coordination for a successful program. This team is necessary to gain top management support and facilitate communication (see Appendix D).

Kostner worked with the post commander to acquire an initial start-up budget and maintain an ongoing annual budget, equipment, and facility assets. Clearly, Kostner's information and personal briefings with the hospital commander demonstrate support for the wellness center. Her ultimate goal is to design a model for health promotion to include staffing, budget, marketing, equipment, and outcomes. High visibility visits and interest from high level sources such as the Secretary of the Army, Undersecretary for Health Affairs, and Forces Command (FORSCOM) staff may facilitate the development of the military's health promotion model. Overall, healthier soldiers and family members are more productive and satisfied with their quality of life.

Criteria and evaluation. The Mountain Post Wellness Center demonstrates many positive aspects of a successful health promotion model. According to one of the premier authorities in health promotion, the Cooper Institute of Aerobics Research has established criteria for developing health promotion and health education programs that should:

1. Address one or more definable and measurable risk factors that are health threats among the members of the target group;
2. Reflect the special characteristics, needs, and preferences of the target group by defining program goals and objectives;
3. Target risk factors and interventions clearly by demonstrating the effectiveness of health status and are appropriate for the particular setting; explain if the outcomes are worth the cost of implementation with measurable outcomes;
4. Identify and implement interventions that make optimum use of available resources; and
5. Organize itself for evaluation. Data collection for baseline and ongoing measures of prevalence and incidence of the target group should be established (Cooper Institute, 1999; State of New York, 1987).

The *MPWC Strategic Business Plan* successfully addresses the aforementioned criteria in all areas. The collection of population data relies on health risk appraisals such as the *Personal Wellness Profiles* and the Health Enrollment Assessment Review (HEAR) that participants complete. At the time of this paper, the MPWC has existed less than a year, therefore, the cost savings is difficult to assess due to a limited amount of accumulated data. After processing 314 individual *Personal Wellness Profiles*, the projected economic impact of reducing the health risks in this small group of individuals

would result in a savings of approximately 148,000 dollars per year (Kostner, 1999b). Over time, as more data is collected, this dollar amount will most likely increase the potential savings of the programs.

The Total Army Family is the target group and the special characteristics reflect in the mission and goals. For example, the goals include the needs of Pike's Peak beneficiaries and DoD civilians. The description of the population served is in the "Current Situation" portion of the Strategic Plan in Appendix D. The resources such as personnel, equipment and space come from a variety of sources. The program shares a building with the Army Community Services, American Red Cross, and Family Life Chaplain. Co-location allows easy access and the benefits of marketing each other. Obviously, this affords a substantial cost savings from using an existing resource rather than creating a new building. The centralized location provides the opportunity for several types of interventions and health education training. In contrast to most health promotion centers, the MPWC is not located in or near the hospital to improve access for all active duty soldiers members and their family members. The location also serves to promote health beliefs versus the disease focus of the hospital.

The transfer of several pieces of fitness and assessment equipment from other fitness centers and programs were at no expense. The data collection continues on a daily basis to measure the outcomes and attendance statistics. The Strategic Plan in Appendix D lists several outcome measures that provide data for future reports and studies. Outcome measures can show effectiveness of the programs and financial measurements with information on potential cost avoidance for reducing absenteeism and injury rates.

To staff the MPWC, personnel were reallocated from the hospital and some medics were borrowed from the 10<sup>th</sup> Combat Support Hospital (CSH) for the six month training period. One of the strengths of the MPWC staffing is the cross-training plan to provide coverage during absences. The diverse staff has a variety of backgrounds, experience, and education. The strong core staffing level contributes an enormous amount of time and energy to sustain the tremendous workload and start-up issues.

Performance measures are one way to assess the effectiveness of program implementation. These measurements answer questions about the delivered services and those who are receiving the care. For example, the MPWC keeps track of the number of classes and the number of attendees, the adequacy of the current budget and staffing levels, and mechanisms for monitoring requests and feedback from the community and target audience. The *MPWC Strategic Business Plan* (Appendix D) outlines the specific set of variables for measuring outcomes. The measurements provide objectives measures such as the number of visits, attendance records, percent of patients in compliance with prevention guidelines, access to services, and the percentage of the population receiving assessments. This information can lead to better decision-making, warrant continuation of certain programs or adjustments to the curriculum, identify successful interventions, and justify the personnel and funding to support the services.

#### Reliability and validity

The reliability of information relates to its consistency, predictability, and precision. Validity refers to accurately measuring what is supposed to be measured (Cooper & Emory, 1995; Salkind, 1991). This study does not have a specific measuring instrument to determine validity. The current military automated systems collect

workload, therefore, manpower experts must examine input and output for accuracy and reliability. More importantly, one must determine if the systems currently in use are measuring the correct information and providing accurate reports for decision-makers. Overall, the staffing trends are reliable in terms of consistency. For example, the core staffing for several programs were quite similar. Health promotion directors tend to experience similar problems: lack of funding, lack of personnel, little guidance to determine the correct number and type of staffing, too little space, and difficulty collecting outcomes data. The advice from experts and the written documentation provide the most current knowledge on the topic and are reliable in terms of a good source of information.

### Discussion

The purpose of this study was to describe the methods and procedures to determine staffing levels in Army health promotion centers. Several military and civilian health promotion directors illustrated different approaches to staffing. Both the Air Force and the Navy have established guidelines for core staffing levels. A few Army health promotion centers have successfully implemented similar guidelines with a core staff of professionals to meet the mission and vision of the organization. According to some health promotion directors, a consolidated wellness center reduces duplicate efforts in the organization by focusing health promotion services in one physical location. A systems approach to integrate staffing as a coordinated team effort provides a comprehensive and consistent health philosophy. The new concept seems to be moving towards an integrated health promotion continuum across the entire health care system. In fact, the core components of the Department of Defense outline recommended health topics for military

programs. Regardless, most health promotion programs are fragmented and personnel requirements are determined in a variety of ways without consistent methods. The health promotion concept is still evolving while its ancillary personnel is often scattered throughout the facility.

Collection of workload data is one way to help reduce inconsistencies in staff planning. The utilization management process often integrates health promotion into the organization by providing tracking systems to collect data for outcome measures. Often, several automated systems capture manpower data for individual hospital departments. Health promotion responsibilities frequently extend across different clinical areas and following the workload back to the origin is difficult. The process to collect hospital workload statistics for the Army has taken over two years. For most clinical areas of the hospital, the manpower data were collected in a straightforward fashion. In contrast, the health promotion data was more difficult to accumulate. The Manpower Team will conduct follow-up visits every two years to update the workload factors and the TDA (P. Kelly, telephone communication, 21 May 1999).

Currently, the MEDCOM Manpower Division is working on a multivariate model for health promotion to determine the relationship between workload, budget funds, and the population served. When the MEDCOM Manpower Survey figures release in September 1999, hospital clinics and health promotion centers will attain objective data about appropriate manpower requirements. The MEDCOM plans to develop a few standardized health promotion models with variances for flexibility. For example, basic staffing guidelines and versions of the basic model for different facilities include: centralized health promotion activities in MEDDACs or MEDCENs, health promotion

referral systems, and mixed centralized activities and referral based interventions. Results of the MEDCOM Manpower Study will provide guidelines for hospital and post commanders, resource managers, and health promotion directors

To save money over the long haul, the MHS must focus on prevention, promotion, and protection instead of solely disease management. Immunizations and healthier lifestyles delay many serious and chronic health problems. Early detection and screening can help treat these problems effectively. Quality personnel are vital to meet the wellness and readiness objectives of the military. Objective staffing guidelines provide a planning tool for the organization for its personnel, workload, and budget. Cost-effective strategies can help reduce excessive personnel expenses by placing personnel in the appropriate positions. Staffing guidelines provide consistent personnel to improve the outreach of preventive services to line units. Core staffing allows a baseline standard for initial planning purposes while allowing flexibility to expand personnel based on the unique demographics of the location. The guidelines can help meet the Army Health Promotion objectives while improving the health of the beneficiary population. Unbiased justification of positions can improve support from the command.

Many documented cases from self-care programs were successful in reducing costs and utilization of health care services. Monitoring general health status and longitudinal outcomes can justify positions to track these issues. The Army has not done very well in collecting data from the population. As a result, assumptions of the essential programs sometimes resulted in failure and poor credibility for their effectiveness. Good documentation provides reports to summarize the population health status, often serving as a primary basis for resource allocation. Indeed, health promotion is committed to

improving the health of individuals. There is not just one way to live a healthy life but unless we are convinced that some lifestyles are better than other for helping people flourish, then there is no point for health promotion (Downie, Tannahill & Tannahill, 1996). Health promotion must take care of soldiers and family members by providing preventive maintenance for the soldier. Rear Admiral Cowan (1998) emphasizes the maintenance and upkeep of the soldier and family as our most valuable weapon system. Staffing models and guidelines provide objective and substantial justification for personnel and funding to support the health promotion mission by permitting education and interventions to accomplish the intended goals.

Staffing is not a solitary issue. Staffing ties into workload, the location and demographics of the population, and the budget. Flexibility to remain a training mission is an additional requirement as opposed to civilian organization. Directors must be willing to take the time and effort to track outcomes, draw up a business plan, and go to the line commanders to get their support. No one best way produces the absolute answer. Do not expect a model to fit the requirements of each site. Staffing recommendations are just that...recommendations. The commander has the final say and discretion to make decisions for staffing and health promotion activities.

### Limitations

Most staffing models and formulas are somewhat rigid, therefore, guidelines must be flexible to meet specific needs. Personnel planning must be population based, realistic, individualized for the particular organization, and contain readiness factors (K. Marley, personal communication, 9 October 1998). Implementation of a staffing model can be a difficult task. With personnel shortages and resource constraints in many

facilities, obtaining a minimum staffing level can be a challenge. Directors may be resistant to a standardized model, especially if it does not meet their needs or reduces the current staffing level. To reach the appropriate staffing levels are ideal, but maintenance and evaluation requires the support of the commander for long-term success. In terms of primary care physicians, staffing ratios may give rough guidelines for personnel, especially with geographic areas that cater solely to outpatient populations. Currently, these staffing guidelines mainly refer to primary care managers or family physician practices.

Often, health promotion centers have difficulty recruiting provider assistance to teach classes or loan personnel for specific tasks to support programs. One reason for difficulty in recruiting health care provider support is the lack of appropriate workload tracking mechanisms through the Medical Expense Performance Reporting System (MEPRS) and other automated systems. Many in-house medical personnel fear they will not receive 'credit' for the time, number of visits, and the number of patients seen through the health promotion clinic. Therefore, providers may not have an incentive to use time away from the primary clinic or position (A. Archibald, personal communication, 28 September 1998). Nevertheless, the director at the WRAMC Wellness Center is working with the MEPRS staff to implement a cross-tracking code to detect health promotion workload outside the Center. In the same way, the director at the Heidelberg Wellness Center has devised a mechanism to appropriately track MEPRS health promotion workload throughout the hospital.

Currently, many Army health promotion centers are hospital based. The trend in the civilian community is towards a referral process or decentralized services. At Fort

Carson and MAMC, the health promotion services move towards the soldiers in the line units and away from the hospitals. The problem with this scenario is the inconsistent and insufficient manpower data for these types of clinics. The MEDCOM Manpower Study does not track workload for health promotion centers if they are not directly associated with the hospital. This is a distinct drawback for marketing health promotion services outside of the MTF. In fact, this seems to contradict the Army goals and objectives to provide for a “fit and fighting force”. The Manpower Study must apply all factors to account for the health promotion services into the total formula of appropriate workload.

### Recommendations

The future success of health promotion, education, and preventive services relies upon improvements in research methodologies, enhanced training for health behavior researchers, and partnerships between health care professionals and scientists. Directors must establish measures for the cost-effectiveness and health benefits of assertive prevention and health promotion interventions. Health promotion professionals must strive to collaborate with other clinicians, researchers, administrators, and physicians to focus on a multidisciplinary approach for the mental, physical, spiritual, and social health of the public (Glanz & Oldenburg, 1997). Health promotion directors and marketers must remain involved in the decision-making process for staffing issues. The unique factors of a situation may suggest critical changes to supplement or decrease the current standard staffing patterns. Collecting and tracking accurate workload data to measure outcomes substantiates the resources to support health promotion activities and services. The cost savings and cost avoidance should integrate changes in certain behaviors and

measure preventive steps to make a difference in the lives of soldiers and family members.

LTG Ronald R. Blanck, the current Surgeon General spoke at the 1998 Army Force Health Protection Conference. LTG Blanck emphasized the importance of a tri-service health promotion concept, presenting preventive medicine philosophies on a local level, developing a partnership with the local community, and providing motivational tools to modify behavior for early disease protection. The MEPRS is another important issue and is on the Surgeons General's *Top 20*. Revising and improving the reliability of workload data with consistent measures is definitely a monumental task. Collecting accurate information about the demographics of the area and tracking outcomes can better serve the community by meeting their health needs.

Health promotion provides a service with both short-term and long-term health benefits that can reduce health care spending. Planning ahead and informing others of the strategic goals, especially the commander, allows for a more successful implementation. Use the marketing function to understand your community, communicate their needs, and then render care. Increase communication to enhance the potential monetary and commander support plus organizational commitment. Health promotion is still evolving in the military and a useful staffing model must remain flexible. A single standard staffing model for a variety of health promotion activities may be too restrictive and decrease the unique opportunities at individual sites for implementing appropriate programs and services. Mr. Patrick Kelly (telephone communication, 21 May 1999) suggests a core of common factors for similar health promotion approaches. A model provides baseline planning factors with the flexibility for each unique situation to allow

the commander to make staffing decisions for the organization. These factor variances allow for the specific needs of the MTF. In contrast, reducing the variability in staffing methods may substantially improve the resource planning process. Further development of ASAMs factors must reflect differences in health promotion approaches such as centralized hospital programs versus referral systems.

The Army must stay current with the civilian community practices and *Healthy People 2010* initiatives. To do this, planners and decision-makers must look at research studies, programs, and the planning, implementation, and evaluation processes.

The other military service branches contribute guidelines and ideas, therefore, the Army should look at similar missions and demographics of the Navy, Air Force, Marines, and civilian facilities to compare similar baseline core staffing.

Health promotion directors must have a basic understanding of a few critical components to increase the likelihood of success. Specifically, they must understand the impact of the readiness mission through health promotion activities and communicate this to the commanders and decision-makers. Educate the line officers on the positive impact of health promotion to keep a “fit and fighting weapon” in peak condition. Make access user-friendly with convenient schedules, fun and interesting educational sessions, and send professional personnel to the unit for screenings and education. Enforce the Army regulations for specific health related issues such as safety, regular immunizations, and screening to improve compliance. Present objective information when requesting resources and staffing. Adopt creative and flexible ways to obtain staff to meet the mission. For example, Fort Carson obtains additional staff by training medics and students from other areas of post and use volunteer personnel. Use a referral system

within the health system instead of relying on a centralized location to provide all the services.

After reviewing the guidelines from several directors, the recommended *minimum* positions to meet core health promotion activities includes: a director, dietitian, physical therapist or exercise physiologist, occupational health nurse/health educator, and administrative support/clerical help. In many cases, a licensed practical nurse along with augmented staff such as a pharmacist and marketing staff will ensure the full range of activities are sufficiently accomplished.

Quantitative data is required to substantiate the viability of the Army's health promotion initiatives. Civilian studies have shown the cost-effectiveness of health promotion programs and interventions. Specifically, the military must demonstrate and document cost effectiveness, efficiency, and positive outcomes for its readiness mission. Commanders and administrators rely on cost savings figures to justify resource allocation for programs. Military manpower studies may furnish additional objective data on the appropriate factors for determining staffing levels for both war and peacetime scenarios. Other recommended areas of study: the measurement of behavioral and health-related changes, the impact on productivity, the labor cost versus its cost-savings benefits, cost avoidance through preventive interventions, and establishing best practices for health promotion initiatives.

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Appendix A

Air Force Health and Wellness Center Core Staffing

Position Title

Director

Exercise Physiologist

Medical Technician/  
Health Risk Assessment Administrator

Information Manager/Receptions

Optional positions:

Nutritionist/Dietitian (Associate Director)

Fitness Assessment Administrator

## Appendix B

## Walter Reed Army Medical Center Wellness Center Proposed Staffing

(as of 30 November 1998)

<u>Position Title</u>	<u>Rank/Grade, MOS</u>
Nurse Educator	05
Hospital Dietitian	03/02
Hospital Food Service Instructor	E6
Supervisor, Community Health Nurse	GS-11
Community Health Nurse	GS-11
Diet Technician	GS-6
Secretary (office/administrative)	GS-5

## Appendix C

## Heidelberg Medical Activity Wellness Center Proposed Core Staffing

(as of 03 December 1998)

<u>Position Title</u>	<u>Rank/Grade, MOS</u>
Director	GS-12
Non-commissioned Officer in Charge (NCOIC)	E-6/E-7
Medical Specialist	91B
Dietitian (two 0.5 FTEs)	GS-11
Nurse Educator	GS-9
Community Health Nurse	GS-11

Appendix D

# **Mountain Post Wellness Center**

**Strategic Business Plan  
15 March 1999**

## **Executive Summary**

The Mountain Post Wellness Center (MPWC) is a community joint venture that promotes healthy behaviors, increases readiness, and improves quality of life on Fort Carson. It provides a comprehensive, coordinated wellness program that identifies the needs of all beneficiaries, grouped by target cohorts and presented with individual attention, to effect health behaviors and wellness status, in a measurable way.

The Center provides counseling, fitness evaluations, exercise prescriptions, health education, smoking cessation, stress management, spiritual awareness, nutrition and healthy cooking classes, self-care classes, and a resource library. Physical training programs are evaluated and PT instructors are trained with the latest in effective exercise programs. Many of the services are delivered directly to the units and worksites.

The Center is outcomes driven and data analysis provides a measure of progress for the individual and/or group. Applied research is conducted to quantify the effect of the programs. MPWC offers a readiness-oriented, health enhancement program for soldiers, and programs that enhance the quality of life for family members, retirees, and civilian employees working towards holistic wellness.

All resources are shared and coordinated between various units on Post. Personnel are assigned for duty at MPWC from MEDDAC and 10CSH. The annual budget is shared between post and MEDDAC to support supplies, new equipment, travel, training, and programs.

The Wellness Center is co-located with Army Community Services, Family Life Chaplain, and the Red Cross. Together they form the Family Readiness Center. This organization facilitates a multidimensional approach to prevention of disease, injury, and other problems. Classes on CPR, Army Family Team Building, safety, effective parenting, relationship enhancement, weight and cholesterol management, low-fat cooking, stress management, and self-care emphasize that wellness is more than physical fitness.

## ***Background***

Chief of Staff, Department of Army

Per directive dated 4 August 1998, General Dennis Reimer mandated all MWR fitness centers become world class. He stated, "Fitness is the cornerstone of readiness...Fit soldiers are the foundation of a trained and ready force...In order to maintain the best Army in the world, we have to provide our soldiers and their families world class fitness programs."

Further, General Reimer stated, we “...must ensure that fitness center staff are trained in the skills and techniques required to develop and manage safe and effective fitness programs.”

The Mountain Post Wellness Center (MPWC) enhances the services and quality of post fitness facilities by coordinating services and sharing wellness resources, defined in a cooperative plan. The fitness facility managers train in the MPWC to learn what services are available for client referral and gain an appreciation for a multifaceted wellness program.

### **Surgeon General, Army**

Health promotion and preventive medicine is one of the Army Surgeon General’s top twenty issues. “Keeping people healthy is better than curing them after they are sick.” (The Mercury, March 1998)

### **Deputy Surgeon General, Army**

“Preventive Medicine is key to Force Protection, essential to quality of life, and a fiscal imperative for our nation. Soldiers will not have time to acclimatize. Within hours, soldiers may be on the ground halfway around the world, expected to perform their mission-the physical and psychological equivalent to being all they can be. Optimized soldiers are more resilient in recovery should illness or injury occur.” BG Patrick D. Scully, USACHPPM.

### **Commanding General, Fort Carson, Colorado**

The Fort Carson Strategic Plan includes several key processes of which, MPWC directly supports two: sustainment of the force and quality of life. We strive to “provide the best quality of life possible for our soldiers and their families and sustain high readiness levels so that our soldiers can rapidly deploy anywhere in the world, fight, and win.” (1998 ACOE Plan) Through injury prevention and health promotion programs, the Wellness Center improves readiness status for soldiers, productivity for the work force, and quality of life for all participants.

### **Hospital Commander, Evans Army Community Hospital**

The Evans Army Community Hospital (EACH) mission is to deploy a healthy force by providing and coordinating health promotion and disease and injury preventive services. Further, it is to manage the care of the Total Army Family through a coordinated health promotion, disease and injury prevention program, that is available to all eligible beneficiaries in the Pike’s Peak Region.

The Mountain Post Wellness Center’s vision and mission directly supports the guidance provided by higher headquarters.

## **Vision**

Provide a comprehensive wellness program that identifies the needs of the Total Army Family, grouped by target cohorts and presented with individual attention, to affect health behaviors and wellness status, in a measurable way.

## **Mission**

Operate a state-of-the-art Wellness Center with programs that improve the health behaviors of the Total Army Family. Coordinate programs with Ft. Carson and MEDDAC assets. Measure and report the effects of the program on the customers. Evaluate and revise all programs.

## **Goals**

Maximize the well-being of Pike's Peak beneficiaries.  
 Maximize the well-being of DoD civilians.  
 Empower the consumer; increase satisfaction.  
 Plan, implement, evaluate, and revise health promotions that meet the needs of our customers.  
 Measure and report the effected change.  
 Reduce the effects of existing disease.  
 Reduce injuries.  
 Improve the Quality of Life on Ft Carson.  
 Coordinate and market programs with MEDDAC and post.

## **Current Situation**

The population served by the MPWC consists of approximately 75,000 Active Duty soldiers and their families, retirees and their families, and DoD civilians. The facility is a Garrison asset staffed primarily with MEDDAC and 10 CSH personnel.

Health promotion efforts at Ft. Carson have, historically, been individual, stove-piped initiatives. Many different providers were promoting health, but there was duplication of effort and redundancy in this organization. Through the Continuous Improvement Process and guidance from the commander, MEDDAC was directed to coordinate a comprehensive program.

This initiative was staffed through the Executive Steering Committee and a partnership was formed between Post and MEDDAC. The developing "One-stop for Human Services" provided space for a wellness center. The mission of the entire building is prevention. The Wellness Center is co-located with Army Community Services, Red Cross, and the Family Life Chaplain. By pooling resources and partnering

with these organizations, the Family Readiness Center can address all aspects of wellness: physical, mental, spiritual, intellectual, and emotional.

The goals of the Wellness Center, from a systems approach, consider inputs, processes, and outputs. Inputs to the system include clients and resources. The clients are all members of the Total Army Family: Active Duty and their families, retired and their families, and DoD civilians. Resource inputs to the system are personnel, primarily from MEDDAC, operational such as budget from the Post, and physical such as the building and equipment.

These inputs are placed in the system and undergo one or more processes. Processes include any activity that transforms the inputs into outputs. The processes at the Center include, for example, fitness evaluations with exercise prescriptions, cooking classes that demonstrate heart healthy recipes, CPR, or self care. The health education offerings are endless. Another process is the measuring of outcomes to determine if the process is effective in producing the desired output.

The goal of the Center is to effect change in physical, behavioral, spiritual, or mental status and thus produce a healthier individual or group. The output then, is a client with lower cholesterol and reduced risk of heart attack. Another example is a higher APFT for a soldier or increased productivity in an employee.

All aspects of the system must be considered simultaneously to identify critical areas for potential change. A critical area is one where value is added to the output, where problems are most likely to occur, and where data can be gathered to assess and correct the problem(s). The utilization of limited human and fiscal resources (inputs), the measurement of outcomes, needs assessments, and marketing (processes), are critical areas in need of assessment and change. Changes in these areas are required to meet the strategic goals of this organization.

### **Threats to Success and Opportunities to Succeed**

**Human Resources.** There are no new authorizations provided for these positions. It requires a reallocation for current “treatment” positions into “prevention” positions. A threat to success exists if the positions are not authorized and recognized. A reorganization of the MEDDAC TDA is underway.

**Cross-training.** Every employee is cross-trained to perform a variety of assessments and education. This provides more flexibility as well as job satisfaction.

**Needs Assessments.** High quality assessments are needed to assure the Center provides the desired services. Random survey mailings to Prime enrollees are one method, as well as convenience sampling at the PX or commissary. With the implementation of the

Health Enrollment Assessment Review (HEAR), all Prime enrollees are provided an assessment form which will further define the population's health promotion needs.

**Marketing.** The best programs in existence are only effective if people participate, and people will only participate if they are aware of a program. The Center uses every means available to market programs. The Directorate of Community Activities has a marketing department and they assist the Center with a media plan. TASC provides logos, posters, banners, flyers, etc. Using the post newspaper is effective. To increase awareness, the Center initially ran a contest in the post paper for a name and a logo. The PX donated a \$50 gift certificate. Weekly articles, or health tips, in the post paper, that focus on health themes or current events, keep our population informed. A recent series in the Army Times highlighted programs at MPWC.

Marketing in pay check stuffers, Command Channel TV, video commercials, military magazines, such as MWR Today, Soldiers, Feedback, and Military Magazine would bring much attention to our program. Newcomer's orientations are another method of orienting new personnel to our services. Many of these ideas are near implementation by our internal marketing team.

Having incentive items on hand, with your logo, is important to encourage participation. A "500 mile club" T-shirt might be awarded after a client has logged 500 miles on the fitness trails. Water bottles, towels, cups, notepads, fanny packs, even watches are potential incentive items for achievement. To date, our ability to purchase such items has been limited by interpretation of regulations from the local Staff Judge Advocate. Assistance from Morale, Welfare, and Recreation activities can provide the avenue to purchase incentive items. All items should contain the logo for increased recognition.

**Tricare Contractor Involvement.** An opportunity to expand resources and synergy exists in future increased involvement from contractors. They have an interest in the health and preventive care of our beneficiaries, as we do, and they should be partially responsible to provide resources.

**Measuring Outcomes.** Does health education and promotion make a difference? What is your ROI? How do you know? Today's best practices can only be defined if they are measured.

All persons seen in the Wellness Center are tracked for progress in a data base managed by an information manager. With the right resources, such as software and experience, the opportunity for applied research is ripe. As with any research, the exact variables are defined as the proposals are written. Following is a set of measurements that are collected:

- 1) Records of individual fitness levels at start, and periodically, thereafter.
- 2) Compliance with smoking cessation after the program.

- 3) Survey health behaviors at start, and periodically, thereafter.
- 4) Survey QOL perceptions.
- 5) % of AD post partum soldiers who pass APFT.
- 6) # of hospital/ER visits before and after self-care instruction
- 7) # of hospital/ER visits before and after assessment and education
- 8) Attendance records at work for civilians, pre-, during, and post- wellness program.
- 8) Survey job satisfaction pre-and post- program.
- 9) Survey stress indicators pre-and post- program.
- 10) Monitor access to services, e.g. waiting time for appointment
- 11) % of enrolled population receiving self-care brief.
- 12) % of enrolled population receiving HEAR assessment
- 13) % of encounters where PCM gives advice on ways to stay healthy.
- 14) Satisfaction with this advise
- 15) % of patients in compliance with prevention screens guidelines (mammograms, paps, etc)
- 16) Perceived physical health
- 17) Perceived mental health.

### **Space Requirements**

Ideally, Wellness Centers can open up in existing facilities, such as fitness centers or medical treatment facilities. In so doing, new construction costs are avoided. Undoubtedly, renovation costs will exist. The philosophy of MPWC is to become an integral part of a “One-Stop for Prevention” by co-locating with Army Community Services, Red Cross, and the Family Life Chaplain. Every occupant in the building can assist the customer in some aspect of preventing problems before they occur. This association creates a synergy for all members of the team.

Following are suggested room requirements:

Offices for staff

Behavior Assessment Room

Physical Assessments (Height, Weight, Cholesterol, Blood Pressure, body composition)

Fitness Assessments (flexibility, strength, aerobic capability)

Massage Therapy/Relaxation Room

Classrooms with AV support

Storage area for supplies

Resource Library for health education materials and Internet access

Kitchen with facilities for cooking classes

Extra office for MPT rotations and volunteers to use

Male and female rest rooms with shower stalls

Waiting room

## **Budget**

A start up budget of \$80,000 was solicited from Post and provided. Several expenses were avoided via the transfer of existing property from downsized units, post fitness facilities, and MEDDAC. The Post agreed to provide a \$50,000 sustainment budget. This is used primarily for supplies, equipment replacement program, and travel.

## **Programs**

The first step in program development was to identify what already exists and then coordinate the services through information sharing. The next step was to assess the needs of the customer through various means, e.g. questionnaires, focus groups. New programs are developed based on the results of the needs assessments.

Following are some of the programs that are offered at the Mountain Post Wellness Center:

Smoking Cessation	Stress Management	
Weight Management	Mental Health	Safety
Anger Management	Team Building	Injury Prevention
Self-Esteem	Men's Health	Women's Health
Parenting	Pregnancy PT	Cholesterol Management
Various Support Groups	Healthy Life Styles	
PT Program Improvement	Low Fat Cooking	

## **Services**

Certain services can be obtained when a customer visits the Wellness Center:

Fitness Evaluations	Cholesterol Checks	PT program evaluations
Exercise Prescriptions	Blood Pressure checks	Ergonomic Evaluations
Body Composition	Exercise Demonstrations	

## **Equipment**

Several pieces of equipment were relocated to the Wellness Center, transferred on hand receipt, and therefore, not reflected on the expense list:

From existing fitness centers: 4 stationary bicycles, 2 treadmills, 2 rowing machines, and 2 step machines.

From existing health promotion programs in Community Health and Nutrition Care: Reftotron, Bioelectrical Impedance, scales, blood pressure cuffs, Audio-Visual equipment.

From downsized offices on post: office furniture.

## **Staffing**

A staffing guide is included Attachment 1. Note that most of the staff is either relocated from MEDDAC and will continue to be paid by MEDDAC or attached for duty from 10CSH. There are many training opportunities. Student internship programs are becoming more popular. Volunteer services are used as available.

## **Targeted Wellness**

To provide meaningful programs for different groups of customers, the Wellness Center uses subject matter experts to create programs specifically addressing the needs of the groups. The Center tries to tie programs to effected (and measured) changes, to improvements in health and readiness, to increased quality of life, and to cost avoidance.

An example of targeted wellness exists in the current TriCare Senior Prime program. Evans Army Community Hospital is a test site for this program for Medicare-age beneficiaries. Upon enrollment, each senior is invited to attend an assessment and orientation day at the Wellness Center. A comprehensive evaluation is performed that includes a detailed health risk appraisal, designed specifically for seniors. A medical summary is reviewed by a care coordinator and recommendations for needed medical services are made. A seven page personal report is also provided to each beneficiary. Education on access to care, community resources available, advance directives, and self-care is also provided. Through this evaluation process, the MEDDAC can proactively plan for medical resources and utilization. The needs of the senior population are now much better understood.

## **Implementation Plan**

It is recommended that we “begin with the end in mind.” (Covey) Plan metrics to measure success in the beginning. As in any plan, we identify action officers and due dates. Forming a working action team from the beginning facilitated the necessary communications to coordinate an unconventional organization such as the “One-stop for Prevention” concept. The Garrison Commander is the process owner at Fort Carson.

Following is a recommended membership roster for the working action team:

Garrison Commander  
 MEDDAC Commander  
 DENTAC Commander  
 Army Community Services Director  
 Directorate of Community Activities Director  
 Wellness Center Director  
 Family Life Chaplain  
 Red Cross  
 Department of Public Works (for construction issues)  
 Primary Care Physician  
 Mental Health/Social Work Services  
 Troop Medical Services Director  
 Community Health Services  
 Preventive Medicine Director  
 Safety Officer  
 TriCare Representative  
 Sports Director

## **Conclusions**

The Wellness Center, in cooperation with the Family Readiness Center, is an attempt at effecting the health and well-being of every member of the Total Army Family. A healthier individual is more ready (to deploy and serve), more productive, more satisfied with quality of life, more fulfilled.

The coordinated efforts between the various DA organizations provide opportunity for synergism, conservation of resources, and reduction of redundancies in the system. The pain and suffering that can be avoided, saves lives, time, energy, and improves the quality of life for years into the future.

## Attachment 1

Staffing Guide

STAFF	RANK	SOURCE	DUTIES
Director	05	MEDDAC	Plans, coordinates, directs all wellness activities on Ft Carson
Asst Director/ Exercise physiologist	GS-11	MEDDAC	Responsible for all exercise programs
NCOIC	E-7	10 CSH	Multi-skilled for staff coverage* Hand Receipt, Supplies
ANCOIC	E-5	MEDDAC	
Receptionist/	GS-5/7	MEDDAC	Records, statistical comparisons, Info Manager, Appointments
Health Promotions	GS-10	MEDDAC	Health Education, Civilian
Nurse			Wellness Program
Dietitian	01/03	MEDDAC	Nutrition Education
Hlth Tech (2)	GS-5	MEDDAC	Staff coverage, fitness assessments, Self-Care Classes, hlth education
Hosp Fd Svc Tech	E-5	10 CSH	Healthy cooking classes, multi-skill* Nutrition education
Mental Hlth Specialist	GS-11	MEDDAC	Mental Health evaluations, support groups
Mental Hlth Tech	E-6	10 CSH	Stress Management, multi-skill
Medics (3)	E1-E3	10 CSH	Assessments, exercise instructions
Chaplain	O4	MEDDAC	Spiritual Wellness activities

Note: Personnel from Red Cross, Family Life Chaplain, and ACS are not listed because they are not assigned to the Wellness Center.